

THE
Amateur Photographer
Volume XIV 1892





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THE

AMATEUR PHOTOGRAPHER,

AN ILLUSTRATED POPULAR JOURNAL,

*Devoted to the interests of Photography and kindred
Arts and Sciences.*

VOLUME XIV.—JANUARY, 1892.



London:

HAZELL, WATSON, AND VINEY, LD.,
1, CREED LANE, LUDGATE HILL, E.C.

1892.



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The AMATEUR PHOTOGRAPHER

Telephone No. 1645
Telegraphic Address: VINEY, LONDON

Offices: 1, Gread Lane, Ludgate Hill, London, E.C.

No. 352. VOL. XIV.]

FRIDAY, JULY 3, 1891.

[PRICE TWOPENCE.]

OUR VIEWS.

"To hold as 'twere the mirror up to nature."—Shakespeare.

Members of the Editing staff are "At Home" on Monday afternoons from Two till Five o'clock, and they will gladly give advice upon all photographic matters.

OUR VIEWS.—"Photography at Home" 67 Competitors—Our Illustration—Mr. E. J. Wall's "Photographic Procedure"—National Association of Professional Photographers—Automatic Photography—The Photographic Convention—Photographic Club for Grimsby—Death of an Enthusiastic Photographer—The Vienna Exhibition—Honours for Mr. Dresser—Photographic Conference at New York—The Glasgow International Photographic Exhibition—Hints on Amateur Photography, by Rev. F. C. Lambert, in the *Gentleman*—The Liverpool Exhibition, balance-sheet and testimonial for Mr. Mayne—Photographs for Free Libraries.

LEADER.—Development with Eikonogen.

ILLUSTRATION.—"Meditation," by Dr. P. H. Emerson.

LETTERS.—Amateur and Professional (An Amateur)—Printing under Green Glass (L. Moonen).

COMMUNICATED ARTICLES.—Photographic Procedure (Wall)—The Construction and use of Photographic Lenses (Leaper)—Instantaneous Photography (Harrison)—Development by Pyrocatechin (Baskett)—Monocular Stereoscopic Camera (Chadwick).

THE PICTURE GALLERIES.—The Artists' Alliance—Mr. Walter Crane's Designs.

NOTES.—Our Contemporaries.

APPARATUS, ETC.—The "Bonanza" Camera (Mercer, Birmingham)—Reliable Ready Sensitised Paper (Charles, London).

HOLIDAY RESORTS AND PHOTOGRAPHIC HAUNTS.—Sandown, Isle of Wight.

QUARTERLY EXAMINATIONS.—"Photography at Home," list of competitors.

REVIEWS.—International Annual of Anthony's Bulletin.

SOCIETIES' MEETINGS.—Bath—Bedford—Birmingham—Cardiff—Dukinfield—Hackney—Liverpool—Lowestoft—North Kent—Richmond—Southport Social—Wigan.

In another column we publish a list of the contributors (sixty-seven) to our "Photography at Home" competition; many familiar names will be recognised. Many of the photographs are excellent, and the pictures are the most diversified, as to subject, of any of the many competitions that we have held. Contributors hail from all parts of the globe, proving how wide is the circulation of the AMATEUR PHOTOGRAPHER, and far-reaching its influence. The date of judging and names of judges will be announced in due course.

Our illustration this week is a reproduction of a photograph contributed to the AMATEUR PHOTOGRAPHER "Home Portraiture" competition by Dr. P. H. Emerson in 1886, which was awarded third prize by Mr. Marcus Stone, A.R.A., who acted as judge upon that occasion.

In this week's issue Mr. E. J. Wall commences his articles upon "Photographic Procedure." They will be continued weekly for some months. It is the author's intention to make the articles thoroughly practical, and to divest photography, in them at least, of all theory. They are written for the worker with a view to form not a guide-book to photography, but the best hand-book and work of reference for amateur and professional photographers that has ever

been published. The success of Mr. Wall's "Dictionary of Photography," which is admitted on all hands to be the most correct book on photography that has ever appeared, prompts us to venture the opinion that "Photographic Procedure" will be to the worker in photography a book of every-day reference that he or she must have. It will be extensively illustrated with useful drawings of apparatus, diagrams, etc., etc.

We have received a notice of the formation of a branch at Birmingham, of the "National Association of Professional Photographers of Great Britain and Ireland," an association which, we understand, is formed to advance the interests of the members by "friendly conference and interchange of opinions on various matters." A second meeting is to be held on the 15th inst.

We are requested to advise our readers that the time for receiving photographs for the Cardiff Photographic Exhibition has been extended to July 31st.

The following appeared in Tuesday's issue of the *Pall Mall Gazette* :—

"The Earl of Kilmorey has retired from the Boards of the Automatic Photograph Company (Limited) and of the Automatic Photograph (Foreign and Colonial) Company (Limited). The Hon. J. C. Maxwell Scott has also retired from the Board of the latter Company."

The Photographic Convention of the United Kingdom open their 1891 session on Monday next, at Bath, by a reception in the Guildhall of that city, at 6.30 p.m., after which the President, Mr. W. Bedford, will read his address, and it will be followed by an exhibition of lantern slides by the optical lantern. Tuesday is to be devoted to visiting Chepstow and Tintern. Wednesday there will be no excursion, the programme being :—10 a.m., General Meeting; 11 a.m., meeting of General Committee; 12 noon, Convention group; 3 to 6 p.m., and 8.30 to 10 p.m., will be set aside for the reading of papers—"The Photographic Works of Herschel and Fox Talbot," W. Lang, jun., F.C.S.; "Recent Developments in Printing Processes," C. H. Bothamley, F.I.C.; "Recent Astronomical Photography," A. A. Common, F.R.S. Thursday there are to be excursions to Salisbury, Bristol, and Chepstow, and in the evening, 8 p.m., the report of the Lens Committee will be read, and a discussion on proposed International Standards will be opened by L. Warnerke. Friday the excursion will be to Glastonbury, Wells, Corsham, and Lacock Abbey, the evening being

devoted to the annual dinner and a smoking concert. The Convention will be glad of more members. A subscription of five shillings per annum is not a heavy amount for those interested in photography, and a few hundreds of our subscribers might well support the society and so assist it in the useful work it is doing.

WE are pleased to note that a photographic section of the Grimsby Cyclists' Club has been formed. The Hon. Secretary of the section, Mr. J. H. Clayton, will be glad to hear from any photographers who are not members of the Cyclist Club, as the being a member of that club is not compulsory. A dark-room is being fitted up at the club house, and visitors to Grimsby and Cleethorpes will be allowed the use of the room. Mr. Clayton will give further particulars to any one writing to him.

THE *Manchester City News* writes :

"Mr. Lachlan MacLachlan died last week at his residence, Oban House, Chorlton-cum-Hardy, in his sixty-sixth year. In this grave is interred the most fiery-spirited Scot, the most enthusiastic of photographers, and the most pertinacious of litigants. A native of the Highlands, he came to Manchester when quite a youth, and for a while worked as a cabinet-maker, but soon drifted into the practice of the then newly-discovered art of photography. He began his career when the daguerreotype process was in vogue, and like many others expected to see photography supersede the artist's pictorial work, or at all events make the painter merely the assistant of the photographer. In those golden days when all the world were rushing to have their features reproduced by the sun, the possession of a camera and the knowledge of the way to use it was enough to secure a handsome income, and MacLachlan's skill obtained him a large and profitable connection. His motives, however, were ambitious rather than avaricious, and he was bent on connecting his name with the advancement of photography in the circle of fine arts. He put forward a scheme for establishing a national collection of permanent photographic reproductions of the features of all the great men of the country, and in fact of everything worth remembering. His enthusiasm became contagious, and, following the lead of Sir Joseph Heron, many leading Manchester citizens went heartily to the support of the scheme."

A CORRESPONDENT from Vienna writes us that the Exhibition closed on the 14th ult. He says the local people were entirely out of it when their exhibits were seen side by side with the English photographs, although scarcely a local exhibitor can claim that he made his photographs without professional assistance. Members of the Club are wealthy people, and like exposing plates at their country houses; some develop their own plates, but few, very few, do their own printing. Some of the members have splendid studios, where they make use of professional assistance of every kind. The pictures at the Exhibition were not hung well, and so totally at variance with the catalogue numbers, that it was almost impossible to make a critical examination. Some pretty things were shown by local exhibitors, but they are much behind English photographs, are wanting in character, and show a want of knowledge of the simplest rules of art.

SOME of our readers will be interested to know that Mr. A. R. Dresser has received a request from H.I.H. the Dowager Crown Princess Stephanie for a copy of his well-known photograph "Breaking Waves," Corbière Rocks, Jersey. Several of Mr. Dresser's photographs are reproduced as illustrations to an article in the *Art Journal* on "Photography by the Hand Camera."

A PHOTOGRAPHIC CONFERENCE will be held in New York in May, 1892. We have received a preliminary notice. It is proposed to make the Conference (to which will be added an exhibition) the largest and most complete ever held in America. [Photographs from Europe are particularly

desired, and we shall be pleased to put any of our subscribers in correspondence with the Secretaries of the Conference.

ENTRIES are being received from all parts of the world for the Glasgow International Photographic Exhibition, 1891, which will be held in the Fine Art Institute in September next. There will be six spacious galleries, the largest being 95 by 33 ft., two rooms 25 by 19 ft., two 35 by 33 ft., and another 25 by 33 ft. This will give a general idea of the extent of the Exhibition. The rooms are all well lighted from the top, and are centrally situated in Sauchiehall Street. They are eminently adapted for a photographic exhibition, and there is every reason to believe that as good a show of pictures will be got together as were on view at Liverpool this spring. The Hon. Secretary, Mr. Wm. Goodwin, 3, Lynedoch Street, Glasgow, will forward entry forms and give every information to intending exhibitors.

THE Rev. F. C. Lambert, M.A., is contributing a series of articles, "Hints on Amateur Photography," to the *Gentlewoman*. The reverend writer is most able to treat of the subject of photography for the gentler sex. From a casual glance we note that the articles are admirably exhaustive without being painfully practical, and will be read with much interest by the fair readers of that most excellently conducted journal, the *Gentlewoman*.

RECENTLY a magnificent casket was presented to the Mayor of Cardiff, by the Marquis of Bute, containing photographic views and addresses from the tradespeople of the town.

AT the last monthly meeting of the Liverpool Amateur Photographic Association the accounts of the recent exhibition were submitted. The income was £1,435 ls. 3d., and the expenditure £1,251 12s. 8d., leaving a balance in hand of £183 8s. 7d. We understand that a very cordial vote of thanks and a handsome testimonial were accorded to Mr. T. S. Mayne, the Hon. Secretary of the Exhibition Committee, and hearty thanks were also tendered to Mr. Paul Lange, Mr. Wm. Tomkinson, and Mr. A. F. Stanistreet, for their aid in carrying the Liverpool Photographic Exhibition to so successful an issue.

A CORRESPONDENT (H. E.) in the *Newcastle Journal* writes :

"I have often thought that it would be more than wise for the Committee of the Newcastle Free Library to endeavour to obtain, by free gift or otherwise, as many photographs as possible of natural objects, old buildings, local celebrities, etc., in Northumberland and Newcastle, and keep them classified and mounted in large scrap books for future reference and use in the library.

"My idea, more explicitly put, is this : By some means or other the authorities should let it be known that photographs of local castles, mansions, churches, river, street, and village scenery, etc., would be most gladly received by the librarian and permanently mounted, tabulated, and indexed for future use, and that artists, and amateurs especially, are most cordially invited to send unmounted copies. In all cases the 'point of view' should be distinctly given for registration. Such a pictorial record would have endless possibilities, and would be most invaluable in the aid it will afford to future writers and historians."

We cordially endorse the views of H. E., and would venture to say that it would be well if the Committee of every free library in the kingdom were to consider the question of obtaining photographs of places of local interest. We are sure that the large army of amateur photographers would help the work, and be only too delighted to, in many cases, give photographs, provided the librarian or his assistants would mount and classify them, so that they might be available for easy reference.

DEVELOPMENT WITH EIKONOGEN.

EIKONOGEN, or the sodium salt of amido-B-naphthol-B-sulphonic acid, was applied to photographic purposes as a

came, even in the original closed boxes, a deep puce or blackish red. The later form, introduced by the maker, is a yellowish-greenish white crystal, which keeps fairly well,

"AMATEUR PHOTOGRAPHER" COMPETITION PICTURES.



"MEDITATION."

By P. H. EMERSON, B.A., M.B. (CANTAB).

developer, and a patent obtained, by Dr. Andresen in 1889. When first introduced it was an amorphous or minute crystalline powder, which was supposed to be white, or nearly so, but, in consequence of the disengagement of ammonia and action of the water of crystallisation, it be-

and probably this property is obtained by the addition of a small quantity of sulphite or bisulphite of soda, the same as is done with the so-called "permanent hydroquinone."

We have said quite sufficient about the chemical side of eikonogen, and the next question is the best method of

keeping eikonogen in solution; like pyro and hydroquinone, our new friend has a greater affinity for oxygen in the state of solution than when solid, and, as with pyro and hydroquinone, we may use the same preservatives. But eikonogen is far more liable to spoil even when mixed with the ordinary sodium sulphite, unless the same be acid.

M. Reeb has determined the necessary amount of sulphite (*AMATEUR PHOTOGRAPHER*, April 3rd, 1891, p. 247), and we quote from our translation of M. Reeb's article: "(a) That if eikonogen be added to an alkali or alkaline carbonate, the quantity should be the same in both cases, viz., ten times the weight of eikonogen. (b) If eikonogen be used without alkali, the proportion should be five parts of sulphite to one of eikonogen." The fact that eikonogen even in neutral solutions of sulphite rapidly spoils and becomes dark coloured, deters us from using the ordinary sulphite, and we may either use the acid sulphite of sodium or strongly acidulate the ordinary sulphite solution with the like result, namely, a solution which will keep, with ordinary care, at least six months, practically unchanged. Before going to the actual formula, we must determine the solubility of eikonogen; this is about 1.6—1.8 parts in 100 parts of distilled water at 58 degs. F., therefore the concentration of our stock solutions is limited, but this solubility is greater in a solution of sulphite, and greater still in an alkaline solution.

The very best preservative for eikonogen then is an acid solution of sulphite of sodium or a solution of acid sulphite of sodium, both actually the same, though not so practically. Herr Voight, the President of the Frankfort Photographic Society, recommends the following stock solution of eikonogen:—

SOLUTION A.

Sodium sulphite (pure recryst.)	..	170 grains.
Distilled water, to make	..	1 oz.
Hydrochloric acid (pure)	..	40 minims.

Dissolve the sulphite in the water and add the acid.

STOCK SOLUTION.

Eikonogen	..	125 grains.
Sodium sulphite	..	625 "
Distilled water, to make	..	25 oz.

Dissolve, and add solution A as above.

We prefer, however, to use the acid sulphite of sodium, as found in the market, which is a pale-yellowish liquid, smelling strongly of sulphurous acid, with which it is saturated, and the liquid contains half its weight of acid sulphite of sodium, and we have found that the following formula will keep six months without change, probably longer, or, if preserving the solution for an indefinite period is a necessity, the quantity of acid sulphite may be doubled or trebled without any disadvantages:—

Eikonogen	..	125 grains.
Acid sulphite of sodium	..	$\frac{1}{2}$ oz.
Distilled water, to make	..	25 "

Having obtained our stock solution of eikonogen, the next point is what alkali to use. According to M. Reeb (*loc. cit.*) the relative power of the alkalis to reduce with eikonogen a definite quantity of silver salt is:—

Caustic soda	..	235
" potash	..	330
Carbonate of potash	..	400
" " soda (cryst.)	..	841

Leaving, however, these theoretical considerations on one side, with the remark that the above table gives us an idea of the relative quantity of each alkali required to do a certain amount of work; when we test the above alkalis in practice we find that there is a good deal of difference to be found in their action, which we now briefly summarise

from a number of experiments carried out with the sensitometer, and with ordinary outdoor and portrait work during the last twelve months.

The caustic alkalies, when used as accelerators, cause as rapid an appearance of the image as pyro and ammonia; in fact, in many cases halves of plates treated by the two named developers showed that the eikonogen-treated half showed the image first, but the final result was practically the same. We have come to the conclusion that practically there is no difference between the action of caustic soda and caustic potash. If there is any difference, it is so small as to need very carefully conducted experiments—in fact, a series of experiments—to prove it, but we incline to the opinion that caustic potash tends to give greater contrast, and caustic soda lends itself more readily to the production of fog. In practice it will be found necessary, or at least advisable, to use with the caustic alkalies a modicum of potassium bromide to prevent surface fog, which is very liable to occur.

In the action of the two carbonates we find a plainly noticeable difference, and one which it is possible to utilise practically to the advantage of our resultant pictures. Carbonate of soda produces negatives which tend to flatness, that is to say, the densest deposit produced by eikonogen and carbonate of soda possesses a peculiar transparency, which tends to the production of soft harmonious negatives, which may tend towards flatness, but the results obtained are very suitable for portraiture. Carbonate of potash certainly gives more contrast and also greater density, and is the accelerator we prefer for outdoor work.

One of the most important points when using eikonogen as a developer is the temperature of the solutions. At 32 deg. F. its developing power is practically none, and its power increases with the rise of temperature; the temperature of the developer should be about 65 deg. F. to obtain the best results.

Briefly formulating a method of development with eikonogen, we arrive at the following conclusions: *Under-exposure and instantaneous shots*: Use either of the caustic alkalies; or with extreme under-exposure or very sharp snap-shots, use a one-solution developer compounded on Warnerke's formula, which is as follows:—

Eikonogen	..	1 oz.
Caustic potash	..	1 "
Sodium sulphite	..	2 "
Distilled water (boiling)	..	10 "

We have deprecated the use of one-solution developers, but as the addition of caustic alkali enables us to obtain a much greater concentration of solution, it is useful for instantaneous work. The above solution should be diluted with from three to ten parts of water as required, more water giving softer results. Where only slight under-exposure exists, the use of a mixed accelerator of caustic and carbonate will be found useful, and the caustic may be increased as desired or found necessary. *Normal exposure*: For portraiture, carbonate of soda should be used, as in all cases where softer effects are desired; for outdoor or landscape work, carbonate of potash should be used, and with a small addition of bromide of potash. *Over-exposure*: In cases where over-exposure is known to exist, practically the same method of development may be adopted as with pyro, viz., increase of bromide and reduction of accelerator, which should be carbonate of potash.

We have given above two formulæ for stock solutions of eikonogen; we now come to stock accelerators.

CARBONATE OF SODA ACCELERATOR.

Carbonate of soda	..	300 grains.
Distilled water, to	..	10 oz.

CARBONATE OF POTASH ACCELERATOR.

Carbonate of potash	..	..	150 grains.
Distilled water, to	..	..	10 oz.

One part of these may be mixed with an equal quantity of eikonogen stock solution and applied to the plate. The caustic alkalies should only be used in cases where such are indicated as above, and stock solutions may be prepared either in 10 per cent. or 20 per cent. as desired, and they should be added, drop by drop, so as to avoid frilling and fogging of the film. A good all-round accelerator, which gives excellent results, and which can be modified with extreme ease, is the following :—

Carbonate of soda	..	..	400 grains.
Caustic potash	..	..	50 "
Distilled water, to	..	..	20 oz.

One part of this may be mixed with an equal quantity of stock eikonogen. If development hangs fire at all, or the plate shows signs of under-exposure, add gradually, or drop by drop, watching the action after each addition—

Caustic potash	..	..	120 grains.
Distilled water, to	..	..	1 oz.

Of the application of eikonogen to lantern and bromide work we cannot speak at present, but in our opinion it is far superior to ferrous oxalate or hydroquinone for this purpose.

It is advisable when using eikonogen to employ the acid fixing bath as obviating all stains, and hardening the film and preventing frills and blisters, which are liable to occur when forcing plates with caustic alkalies. The superiority of eikonogen over pyro and hydroquinone is manifest, particularly in developing snapshot and portrait work, as, no matter how dense the high lights and how weak the shadows, the resulting prints are far softer and more harmonious than would be the case with the other two reducing agents.

Letters to the Editor.

AMATEUR AND PROFESSIONAL.

SIR,—By the kindness of, I believe, about the first amateur who ever started photography as a recreation, I have just begun to get your interesting paper, and the first number I get contains letters about the old vexed question of amateur or professional, and though not yet either in a position or skilled enough to go in for any of your competitions, I should like to know whether I am eligible as a competitor, should I so desire. The same kind amateur I mentioned sent me a camera three or four years ago when I was in the United States, and I managed in spare time to teach myself photography. The first blush of enthusiastic pride caused burning of holes in the pocket, and friends all round got photographs free, gratis, and for nothing. I was with a grading outfit grading railroads on the prairie, and one day I was in my tent when two men came in, and I was thus accosted: "Say, boss, are you the fellow that catches shadows?" I could not deny that uniquely but well expressed occupation, and then found that they were men owning a threshing machine, an instantaneous view of which I had taken in the morning, and that they would like to have several. Now, as photographic material is a decided impediment on the prairie and expensive, I could not do them some dozen for nothing, so I agreed to sell them some, and after that of every picture I took round camp, every man who had so much as a nose showing in it, wanted some, and I did them, but not for nothing. After that, many friends have wanted pictures, and I sold them sometimes and gave them sometimes. Should I take a picture to-day, and somebody wants several copies, I should undoubtedly sell them if I saw fit. At present I am working on a Nova Scotian farm, planting cabbages, milking, hoeing, sowing grain, etc., etc., and I use the root cellar under the barn as a dark-room. Am I an amateur or professional photographer? Can I compete in your or any other amateur competitions? A hired man on a Canadian farm is not in a position to give away

too many photographs, and yet friends often want some, especially in country districts. The point is, if an amateur, such as myself, takes pictures for himself of which friends want some, and buy from him, or if wanting some special thing taken, he takes it for them and sells them a few photographs, does he place himself outside the pale of amateur competitions in general and yours in particular? In the sporting world, I fancy a man who once takes money is no longer an amateur, but I am not sure, and if the strict letter of the law is kept to on these lines, then I am no longer an amateur, though if you saw my work, my dark-room, and my ordinary occupation, you would not be very likely to call me a professional; and even my camera, which one of the men pointed out to the other in the tent on the prairie, was "the box the feller catches the shades in," is getting to have an unprofessional look. Pardon this long letter, but I am interested to know how I personally stand as regards competing in amateur competitions, while at the same time I beg to remain, yours most decidedly,

Nova Scotia.

AN AMATEUR.

* * * *

PRINTING UNDER GREEN GLASS.

SIR,—I have read in your columns a great deal concerning the above, and have tried it. Interesting experiments in this direction may be made by substituting the ordinary thin, coloured gelatine sheets, such as employed by confectionery firms. I have obtained many varied tints by printing through yellow gelatine, blue gelatine, yellow and blue (two sheets combined; two yellows and one blue; one yellow and two blues), etc. The sheets have the advantage of being thinner and, consequently, less bulky than glass, and can be obtained in many colours, to use alone or in combination. Under red gelatine I have not been able to obtain a print. Under several thicknesses, exposure, of course, has to be much longer.—I am, etc.,

June 25th, 1891.

L. MOONEN.

Photographic Procedure.

BY E. J. WALL,

Author of the "Dictionary of Photography."

INTRODUCTORY.

A WORD of explanation is required as to the arrangement of the matter of the following notes. The title will give the key to the whole. The work is arranged in sections, commencing with the purchase of the camera; the different parts and fittings of the same are discussed, and their uses pointed out. The lens next claims attention, then hand-cameras, the dark-room, the sensitive medium, exposure and exposure tables and meters, etc., the principles of development and so on. Each section is arranged as far as possible to give complete advice on the subjects treated of, which for ready reference are arranged alphabetically; and it is hoped that the work may form a handy reference book for the novice and for the more experienced hand, practical notes rather than theory being the aim of the writer.

SECTION I.

THE CAMERA AND ITS APPURTENANCES.

Apparatus, Necessary.—The essential apparatus of the camera is by no means great, and the following may be taken as a guide: camera, dark slide, focussing cloth, tripod or stand.

Apparatus, Supplementary.—The following is a complete list of the accessory apparatus: carriers, case, changing box or bag, internal shutter, level, note-book, plumb indicators, shutter, view finder, view meter.

Apparatus, Size of.—The size of the apparatus is always an important point, and one which requires some consideration to decide upon. If we choose a small camera, the resulting pictures are too small frequently for the aspirations of the advancing worker; on the other hand, larger sizes handicap the tyro by increased

prime cost and increased expense in the purchase of supplementary and necessary apparatus treated of in the following sections. In many cases our decision is dependent on the amount of cash that we have or can spare. The following are the different sizes of commercial apparatus, or the size of the pictures we can obtain, and for which sizes apparatus is made :

		Inches.	
Lantern size	3 $\frac{1}{4}$ by 3 $\frac{1}{4}$		
Quarter plate ($\frac{1}{4}$ plate)	4 $\frac{1}{4}$ " 3 $\frac{1}{4}$		
	5 " 4		
Stereoscopic	6 $\frac{3}{4}$ " 3 $\frac{1}{4}$		
Double quarter plate	6 $\frac{3}{4}$ " 4 $\frac{1}{4}$		
Half plate ($\frac{1}{2}$ plate)	6 $\frac{3}{4}$ " 3 $\frac{1}{4}$		
	7 " 5		
Stereoscopic	7 $\frac{1}{2}$ " 5		
	8 " 5		
Whole plate ($\frac{1}{1}$ plate)	8 $\frac{1}{2}$ " 6 $\frac{1}{2}$		
	9 " 7		
	10 " 8		
	12 " 10		
	15 " 12		
	18 " 16		
	20 " 16		
	24 " 20		

Etc.

To decide upon the actual size, it is advisable first of all to consider for what work we require the apparatus. If for outdoor photography, weight is a consideration, and should be taken into account. If for indoor work, weight has but little consequence, and we may take a larger size without having any fear of being fatigued by having to carry it about. Increase of size means not only increase of weight of camera, but increase of weight of every other necessary apparatus. Again, increase of size means increase of expense in the subsequent operations of making and printing from the negatives, and as at first, unfortunately, failures predominate over successes, we are apt to lose heart at seeing money or money's worth consigned to the dustbin or waste-paper basket.

If advice is asked as to the purchase of apparatus, I do not recommend the smallest sizes; the choice would fall upon the popular half-plate, for by the aid of carriers (*q. v.*) we can use the smallest size plates for our early struggles, and thus reduce the expense and the chance of being disheartened from spending money without results.

On the Continent the sizes of apparatus are different, the metric system of weights and measures being there in vogue. For convenience these sizes are here given with their English equivalents, but now in most countries plates of English sizes, and in many cases of English make, can be obtained :

Centimetres.		Inches.	
8 $\frac{1}{2}$ by 8 $\frac{1}{2}$	=	3 $\frac{1}{4}$ by 3 $\frac{1}{4}$	(lantern size).
8 $\frac{1}{2}$ " 10	=	3 $\frac{1}{4}$ " 4	
9 " 12	=	3 $\frac{1}{2}$ " 4 $\frac{3}{4}$	
8 $\frac{1}{2}$ " 17	=	3 $\frac{1}{4}$ " 6 $\frac{3}{4}$	
12 " 16	=	4 $\frac{3}{4}$ " 6 $\frac{1}{4}$	(half-plate).
9 " 18	=	3 $\frac{1}{2}$ " 7	
13 " 18	=	5 " 7	
13 " 21	=	5 " 8 $\frac{1}{4}$	
18 " 24	=	7 " 8 $\frac{1}{2}$	
24 " 30	=	8 $\frac{1}{2}$ " 11	

It has been suggested that an international standard should be created, but whilst this would be of great advantage, we are not likely at present to see the same come into general use.

Apparatus, Care of.—Too much care cannot be taken of any apparatus. Before taking into use, the several parts, both internal and external, should be well dusted; where wood slides on wood, a little dry black lead should be rubbed in; racks or screws should receive a little oil; all interior parts and fittings of camera, dark slide and lens should be dead black, so as not to reflect stray light on to the plate. It is, unfortunately, the fashion to consider that when our brief summer is over the photographic season is dead; we think this is a mistake. There are plenty of opportunities for making pictures in dull and wintry weather, still the usual thing is to put the camera away, and if this is done care should be exercised that a dry and fairly warm place is chosen, and a camera thus put away should be carefully examined, dusted, and cleaned before being taken into use again. Further notes on the care of apparatus will naturally crop up when describing individual parts of the same.

The Camera.—We are accustomed to associate the word camera with an elegant instrument resplendent with brass fittings and highly polished mahogany and leather bellows; such is, indeed, the apparatus we now use. Essentially, a camera is a dark box, which supports the lens at one end and the focussing screen or sensitive surface at the other end. The early forms of camera were actually two wooden boxes sliding one within the other, as shown in the accompanying figure, but as improvements in processes crept gradually on, the necessity for lighter and less cumbrous instruments made itself felt, and the wooden body was replaced by leather. The essentials of a camera

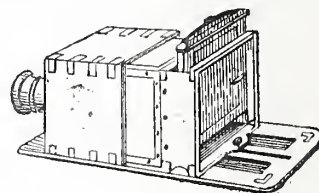


FIG. 1.

then are a dark or light-tight box, bearing at one end the lens, at the other the sensitive surface; and the individual parts and improvements, and their uses and applications, are considered in the following notes. Various special forms of cameras have been devised for special work, and for descriptions and uses of the same, reference must be made to the instruction books treating of such special subjects. The tendency of the present time seems to be for manufacturers to try and excel in the direction of complication and multiplication of parts, reduction of weight and thickness, till we confidently expect to find the latest camera a marvel of brass and wood, closing up into the thickness of a visiting card, and small enough to put in one's coat pocket. I have not the slightest disparagement of this useful emulation, provided firmness, strength, and rigidity are not sacrificed; and probably there are purchasers for such cameras, or the makers would never turn them out, but personally am willing to sacrifice a little finish and to put up with a little extra weight for the sake of a strong, rigid camera that will not fall to pieces like a house of cards at an accidental tumble. On the other hand, I strongly object to unnecessary weight, and some of the old-fashioned cameras contained sufficient wood to make two of the ordinary type, and weighed enough to require a light porter or handcart for a day's touring; it is, however, possible to hit the happy medium, combining rigidity and strength with a minimum of weight.

The tyro in photography sometimes desires to obtain his outfit second-hand, and whilst it is certainly possible thus to effect a considerable saving of cash, it

is a plan by no means to be adopted by the uninitiated without the assistance and advice of a master hand skilled in the art and expert in practice. I do not wish to infer that all second-hand apparatus is defective; far from it, but "there be land rats and water rats," and no novice is worse off for the report of a skilled craftsman on his future tools. For a small fee the Editor of the *AMATEUR PHOTOGRAPHER* examines and reports upon all such apparatus submitted to him, a plan entailing a good deal of trouble but saving many a novice's pocket, and to which no seller can object.

The necessary and accessory fittings, etc., of a camera will be described under the particular notes hereafter, and the digestion of the same may lead to a fair estimate of what is and what is not desirable in a camera.



The Construction and Use of Photographic Lenses.

BY CLEMENT J. LEAPER, F.C.S.,

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CHAPTER VI.

ON THE USE OF A LENS.

IN selecting a lens, we require to know both what size of plate it is intended to cover, and what class of negatives it is intended to make, for it may be taken as axiomatic that a lens thoroughly suited for one kind of work will not be suitable for another.

Viewed from the standpoint of the work they are intended to perform, lenses may be classified as below:—

- (A) Portrait lenses.
- (B) Group lenses.
- (C) Landscape lenses.
- (D) Lenses for architectural work.
- (E) Lenses for copying.
- (F) Lenses for (so-called) detective work.

It will be convenient to consider each of these headings separately.

(A) PORTRAIT LENSES.

These being primarily intended for taking portraits, the first question that arises is the proper distance at which to place the subject. As a general rule, this cannot well exceed 30 feet, nor be less than 6 feet, for if the greater distance is exceeded the resulting image will be more or less flat, a result due to the fog or haze always present in the atmosphere; whilst if the lesser distance is diminished a certain amount of exaggerated perspective will be introduced.

The latter point requires, perhaps, a word of explanation. Confining my remarks for the moment to a three-quarter-face portrait, in which the top of the nose and one ear are shown simultaneously, it is plain that the relative sizes of these portions of the face, as seen by the unaided normal eye at the distance of distinct vision, should be faithfully reproduced on the sensitive plate.

Now these sizes on the negative will depend upon the relative distances from the lens of the ear and nose respectively. Calling the shorter distance in a particular case 72 inches, the longer will be about 76 inches, *i.e.*, the size of the top of the nose will be exaggerated by about one-eighteenth. If, however, the lesser distance be reduced to 36 inches, the greater distance will become 40 inches, the size of the top of the nose being exaggerated by about one-ninth. It is evident, in consequence, that the shorter the

distance from face to lens, the greater will be the amount of exaggeration, and it is also plain that a certain minimum distance can be fixed upon, outside which the effect practically disappears.

Taking the average of the two distances as 18 feet, we may state that the best result will be obtained when the sitter is at that distance from the lens.

We are then limited, so far as distance from lens to object is concerned, and this, of course, limits the foci of the lenses we can employ. To put the matter in other words, we may say that if this was the only point to be considered, any lens would answer our purpose which at the assigned limit of 18 feet would produce a negative of the requisite size.

Reasoned out a little more closely, it would be found that this result would be obtained with lenses covering up to whole-plate when the focal length of the lens equalled about twice the longest side of the plate it was intended to cover.

So far the focus only of the lens has been considered, but another very important point has to be taken into account, *viz.*, its rapidity. This depends for a given focal length solely upon the available aperture, and, other things being equal, that lens would naturally be selected which admits of the largest stop, for anything that lessens the exposure is a very important desideratum in portraiture.

It is generally conceded that to get a sufficient amount of rapidity the aperture should not be less than one-quarter the focal length, and for the smaller sizes of plates all these conditions are fulfilled by lenses of the Petzval type.

For sizes above whole-plate, Petzval lenses possess, however, certain disadvantages. In the first place, the greatly increased distance between the two combinations necessary to correct spherical aberration results in a rapid falling off in the marginal illumination, and this is the case to such an extent that with full aperture the size of the picture cannot be made very much greater than the diameter of the lens itself. If, on the other hand, the diameter of the lens is increased, we have, in addition to the enormously enhanced cost, the drawback that lenses of a diameter approaching the distance between the two eyes give an effect similar to that obtained by moving the head from right to left. Owing to the relatively large diameters of these lenses, the depth of definition is exceedingly small, hence extreme care is necessary in focusing, and as this depth diminishes as the focal length increases, we would select a lens giving a picture at rather within than without the stated limits, if influenced by this consideration only.

It is true that when stopped down equality of illumination and depth of definition can both be secured, but the lenses then become inferior in rapidity to those of the R.R. or Euryscope type. In fact, for anything exceeding whole-plate it may be said that these latter lenses will give as good, if not better, results than those of the Petzval type, and, as they are less expensive, most photographers employ them for portrait purposes. Owing to the comparatively long focus of a R.R. lens, covering over a whole-plate, results, free from exaggerated perspective, can be obtained with a lens whose focal length equals that of the plate it is intended to cover.

(B) GROUP LENSES.

For indoor work, special lenses, such as the D series of Dallmeyer, answer every requirement, as they work with the comparatively large aperture of *f*/6, and possess considerable depth of definition; but for open air-work a landscape lens, or doublet, meets every requirement.

(C) LANDSCAPE LENSES.

It can be demonstrated that any landscape viewed by the unaided eye forms on the retina an image, subtending an angle not greater than 60° and it follows from this that a

photograph viewed at a certain distance from the eye will convey to the mind a correct idea of the objects represented only on condition that this angle is not exceeded.

Drawing two lines, making with each other an angle of 60° , we may put the matter in other words by saying that a photograph is true to nature if its longest dimensions are measured by m , n , m^1 , n^1 , m^2 , n^2 , etc. (fig. 30), provided that when viewed at the respective distances b , b^1 , b^2 , b^1 , etc., it includes just the amount of subject which the eye would see when viewing the landscape, etc., which the photograph represents.

Fig 30.

If then we wish to make direct pictures absolutely true to nature, and employ only one lens, we must select an instrument including an angle of 60° , and of about 11 inches focus, and so alter the point of view at which we take each picture that the distance between ground glass and nodal point of emission always equals 12 inches.

It generally happens, however, that the point of view is not a matter of choice, but of necessity, *i.e.*, the camera *must* be placed at a certain distance, and nowhere else, a distance generally smaller than that necessary, under the previously stated conditions, to include as much of the view as is seen by the eye.

To provide for this emergency, a series of lenses of varying foci, but including the same angle, must be provided, that one being selected which, from the obligatory point of view, includes as much of the picture as the eye perceives. Since, however, such a lens would be of shorter focus than 11 inches, to restore the truthfulness of the resulting picture it would be necessary to subsequently enlarge it proportionately to the difference between the actual distances between the nodal point of emission of the lens used, and the normal distance of 12 inches. Then, provided the angle included by the lens of shorter focus did not differ much from 60° , the resulting enlargement viewed at 12 inches would be the same (save, perhaps, a slight loss of definition) as the direct picture taken with what we may call a normal lens. If, however, the angle included by the lens of shorter focus was greater than 60° , then too much of the picture would be included, and the perspective would be false.

A view meter including an angle of 60° placed over the camera would at once enable the most suitable lens to be selected if several of these were provided.

It will be inferred from the above that a lens of any focus, provided it includes an angle of about 60° , will give a correct picture of objects situated in one plane, on condition that this is viewed at a distance equal to that between the ground glass and the nodal point of emission of the lens with which it is taken.

Since it is practically impossible to see distinctly at less than 12 inches, pictures taken with a lens of shorter focus than that, must be enlarged, whilst, if taken with a lens of longer focus, the objects represented in the picture must be of such dimensions that the eye, placed at a greater distance than 12 inches, that is at a distance equal to that between the lens and ground glass when the picture was taken, can still see the whole without any loss of detail.

As regards the particular form of lens, most photographers prefer for pure landscape work the single lens, which has to recommend it its cheapness and the fact that,

owing to the small number of its reflecting surfaces, the resulting image is rather more brilliant than that given by doublets.

(D) ARCHITECTURE.

The remarks made under the last heading apply with equal force here, but instead of a single lens, which as a rule distorts straight lines somewhat, one of the R. R. or other non-distorting type is employed. It must not be forgotten that in reproductions of straight lines the ground glass must be truly vertical, otherwise a certain amount of divergence or convergence of the vertical lines of the building will result.

(E) REPRODUCTIONS.

Perspective need not be taken into account in this case, for lenses of different foci, provided they cover the plate it is intended to use, will all give identical pictures. As it is essential, however, to reduce the loss of brilliancy due to haze to a minimum, that lens should therefore be selected which, at the shortest distance from the flat surface to be reproduced (consistent with the condition that the proximity of the camera does not interfere with the even illumination of the surface) gives an evenly illuminated image on the ground glass. All things considered, these conditions are fulfilled by lenses of the W. A. rectilinear type, which, in addition to their short focal length, are also non-distorting. In reproductions care must be taken that the plane of the ground glass is accurately parallel to the surface of the drawing, etc., and that the axis of the lens is at right angles to that plane.

In many photo-mechanical and other processes it is necessary to use reversed negatives, and to attain this result at one operation a plane mirror silvered on the front and making an angle of 45° with the axis of the lens, can be used in front of the latter. Or, instead of a mirror, a right-angled prism may be employed, and with the object of reducing the size, and consequently the price, of such prisms certain makers construct special lenses of very small dimensions with a prism permanently fixed in position.

It will be readily understood that when the drawing, etc., is at right angles to the plane of the ground glass a lens of much shorter focus can be used than when the lens is employed in the usual way, owing to the increased facility for even illumination of the object afforded by its peculiar position.

(F) DETECTIVE WORK.

Here a limit to the length of focus is imposed by the fact that all objects situated at more than a certain distance from the lens must be well defined, a condition incompatible with any great focal length. On this account only very short-focus lenses are available, and of these that one is to be preferred which includes the narrowest angle.

If no architecture is included, single lenses working at $f/20$ can be employed, but for general work a lens of the W. A. rectilinear type is to be preferred. Quite recently Zeiss has constructed a series of lenses for this class of work of the new Jena class covering at $f/18$ an angle of 60° and possessing great depth of definition.



To Secretaries of Photographic Societies.—We shall feel much obliged if those secretaries who intend accepting the recent offer made them, will at once communicate with us.

Lynton and Lynmouth.—Messrs. Vickery Bros., of Victoria House, Barnstaple, advise us that they will have a Dark Room open at Lynmouth from July 20th to October 1st; further particulars can be had upon application to us or to them.

Amateur Photographer's Annual.—Mr. F. W. Reynolds writes:—"I have read the Annual with deep interest, and found a great deal of information which I have copied out into a note-book to be stored with my treasures. I should not think of going away for my holiday without it."

Instantaneous Photography.

By W. JEROME HARRISON, F.G.S.

CHAPTER XIV.—Continued.

BEST FOCAL LENGTHS OF LENSES FOR INSTANTANEOUS WORK.

Testing Focal Lengths of Lenses and Stop Ratios.—Finding the precise focal length (or "focus," as it is often called) of a lens to the decimal of an inch is not so simple a matter as it may seem. For practical purposes, however, the following rough method will be sufficient. By the aid of a magnifying glass, and using the full aperture of the lens, focus upon the ground-glass as sharply as possible the image of some object not less than 150 yards distant—a large printed bill, or some telegraph wires, are good objects on which to focus. Now remove the ground-glass; and if it be a single lens, the focal length will be the distance from the back of the lens to the place occupied by the ground-glass. If it be a doublet lens, measure the distance from the ground-glass to the diaphragm slot; removing the back combination of the lens to allow the measuring rule to pass through.

Having obtained the focal length or "equivalent focus" of the lens, it is next necessary to ascertain what proportions the diameters of the stops or diaphragms which belong to that lens bear to the focal length. All that is necessary is to carefully measure the diameter of each stop, and then divide the focal length of the lens by each diameter in turn. The numbers so obtained may be called the "f" numbers, since the letter "f" stands for the focal length of the lens; each "f" number is made the numerator of a fraction, and for the denominator we place the product obtained by dividing the stop-diameter into the focal length.

Thus, suppose a lens of ten inches focus has four stops, respectively two inches, one inch, half an inch, and quarter of an inch in diameter. Dividing ten inches by each of these numbers, we obtain $f/5$, $f/10$, $f/20$, and $f/40$ as the stop ratios or "f" numbers for the lens in question:

$$\begin{aligned} 10 \div 2 &= 5 = f/5. \\ 10 \div 1 &= 10 = f/10. \\ 10 \div \frac{1}{2} &= 20 = f/20. \\ 10 \div \frac{1}{4} &= 40 = f/40. \end{aligned}$$

To get the exact diameters of the stops, it is a good plan to cut a wedge-shaped piece of thin cardboard (fig. 9), and push this through the circular opening of the stops as far as it will go. Mark this point on the card with a pencil, withdraw the cardboard, and measure its width at the pencilmark; this will be the true diameter of the stop.



FIG. 9.

What is the best "Stop" to use for Instantaneous Work?—The stop which will give the best possible results when the lens to which it belongs is used for instantaneous work depends on more than one consideration. The larger the stop the more light is admitted; and it is usually the case in this class of work that we can do with as much (generally more) light as we can get.

But with a large stop (say $f/4$) there is very little depth of definition. Objects in one plane are sharply focussed, but all the rest are hazy and ill-defined. With a small stop (say $f/32$) matters are much better in this respect. Objects in the one plane for which the lens happens to be focussed are still absolutely sharp; and more

than this, objects in planes situated on either side of the correctly-focussed plane are—up to a certain distance—also in fairly good focus; they are not in perfect focus, but their difference therefrom is not sufficient to annoy the eye; the disc of confusion does not exceed the hundredth part of an inch.

In these respects, then, as in so many others, we must effect a compromise. Only three or four years ago we should have recommended $f/8$ as the best stop for general use in instantaneous work. But the rapidity and quality of our dry plates has steadily increased, and we now usually employ as our favourite stop, $f/11$. This stop is usually made and marked as $f/11.3$. The reason of marking it just this decimal part larger, is that it is very necessary and useful that a certain relationship as regards exposure should exist between all the stops belonging to any one lens. The usual relationship is, that each stop in order (beginning with the largest) shall require double the exposure of its predecessor.

Again, the stop intermediate between $f/4$ and $f/8$ —i.e. the stop which shall require double the exposure of $f/4$, and half the exposure of $f/8$ —is represented by the figures 5.65, or $f/5\frac{1}{2}$ nearly.

But while recommending $f/11$ as a sort of "average" stop for ordinary instantaneous work, we would insist strongly on the necessity for judgment being used in fitting the stop to the light and to the subject, in the case of every exposure.

This is a point to be considered in the choice of a hand-camera—does it admit of the diaphragm being easily and rapidly changed in the open air?

For town work, where the air is often smoky and the light yellowish, it will frequently be advisable to use $f/8$. For seaside work, yachting pictures, etc., $f/16$ can be safely employed. Between these lies the stop $f/11$, which we consider is that which best gives the happy mean between sufficiency of light on the one hand, and depth of definition on the other. True enough, there are glorious spring days, when—after showers— $f/16$, can be well used in towns; and $f/23$, or even $f/32$ for river and sea-pictures.

The rapidity of the exposures given must, of course, also be considered in considering what stop to use. In the above remarks concerning stops, we have had the one-thirtieth of a second in our mind as the exposure we most commonly give with a hand-camera for all-round work.

Advantage of Short-focus Lenses for Instantaneous Work.

—As an experiment, take a quarter-plate camera with a lens of, say, four inches focal length, and (using its largest stop, say $f/6$), focus some object first at 3 yards, then at 6, 9, 12, 15, etc., yards' distance. In each case mark the position of the focussing screen upon the base-board of the camera. It will be found that the distance which the screen has to be moved forward gradually decreases as the distance of the object increases, until at last it becomes so small that it may be neglected, and we arrive at a point beyond which all objects are practically "in focus."

Now repeat this experiment with a whole-plate lens of, say, twelve inches focal length, using the same objects at the same distances as before, and with a stop bearing the same proportion ($f/6$) to the focal length of the lens. It will be found—(1) that the focussing screen will have to be moved through a greater distance each time it is re-focussed; and (2) that the distance of the nearest object beyond which everything is practically sharp is considerably greater than in the case of the short-focus lens.

(To be continued.)

Instantaneous Photography with a Modern Hand-Camera.

LARGE numbers of people are tempted by the wonderful portability of a hand-camera, and the other unique advantages it offers, to take up with enthusiasm the delightful hobby of amateur photography as a healthy and agreeable scientific recreation, and certainly no ideal holiday outfit is complete without including one of these wonderful little instruments to chronicle in pictorial form our wanderings. The apparatus in some cases is so extremely portable, the weight so trifling, the bulk so small, and further than this the instrument is always ready for action, without the considerable annoyance and trouble of rearing up an obstinate tripod, fastening thereto a camera, and undergoing the somewhat humiliating position of being compelled with the ordinary method of placing one's head in a bag, for the amusement of ragged urchins and other onlookers. No; the modern hand-camera, the latest triumph of photographic science, has revolutionised this. It is simply held tightly in one's hand, adjusted to the object we wish to photograph, the spring touched, and the exposure is made.

Advantages of Hand-Cameras.—Owing to the marvellous ease with which photographs can be obtained with this form of camera, the most interesting objects around us are permanently secured in their most interesting moments, which otherwise would be entirely lost. Expressions are caught, scenes depicted, transient effects secured, which would be gone for ever before a tripod could be reared to take the picture in the ordinary way.

In fact, there is no branch of photography more attractive than that of instantaneous work. The amateur may obtain negatives in the ordinary method possessing better technical qualities, perhaps, than the worker with the hand-camera, but the latter will assuredly produce the most interesting and valuable series of pictures, to which fact any album of "snap-shots" will amply testify.

Hand-cameras need, therefore, no justification whatever. They are by no means a passing novelty, but undoubtedly are come to stay.

The crucial question, therefore, which confronts amateurs is which is the best? and the fact that there are so many rival competitors in this particular department of photography proves beyond the shadow of a doubt, if any proof were needed, that the latest innovation in photographic apparatus has "caught on" with marvellous success amongst amateurs of all grades and conditions. In deciding the important question at issue, it will be as well to relegate at once to the nursery the cheap toy-cameras so extensively advertised in almost every periodical one picks up, as these are nothing more than scientific playthings, suitable only for intelligent school children just promoted from petticoats into trousers.

A good reliable hand camera should, *inter alia*, undoubtedly possess the following qualifications:—It should be light, consistent with strength; it should be portable and free from unnecessary bulk; it should possess a simple and reliable method of changing plates, minus the glorious uncertainty existent in so many forms of cameras in the market; the lens should be rapid, capable of giving perfect definition, and should by all means be fitted with diaphragms or stops, in order to give time exposures; there should also be some simple arrangement by which the operator can ascertain at a glance the number of plates exposed and the number left unexposed; while the shutter should be capable of giving both instantaneous and "time" exposures, and if the former can be varied from "slow" to "rapid," the shutter arrangement may be regarded as well nigh perfection as possible. There should be some mechanical method of ascertaining whether or not the plate behind the lens has been exposed, and whether or not the last exposed plate has been changed.

The Talmer the Ideal Camera.—The hand-camera, therefore, which embodies most of these points is an ideal one, and to the writer's mind the one known as the "Talmer" is the only one which possesses all these good features, and has additional advantages of a quite unique character besides.

What the Talmer is Like.—The outer case of the camera is made of mahogany of the very finest quality, most beautifully polished, or it can be obtained in the usual "sombre" form if so desired. It measures 5 by 5 by 9, and when charged with the full complement of plates, namely twelve, scales only $3\frac{1}{2}$ lbs. Of course, if required, it is equally applicable for films, in which case the weight would be considerably reduced. The rear portion of the box holds twelve plates, each of which is encased in the lightest of steel sheaths, which are easily changed in a few seconds, and as quickly emptied. The mechanical arrangement is so ingeniously contrived that *no plate can possibly be exposed twice*, and it also possesses the further unique advantage—the want of which is such a great drawback to so many hand-cameras in the market—namely, the number of exposed or unexposed plates can be ascertained in the twinkling of an eye, and the operator knows instantly when the last plate of the batch has been exposed. In the lid of the camera has been affixed an ivory mounted tablet, on which particulars as to details of

subject, light, exposure, etc., can be made for reference during development, and afterwards as easily erased.

An indispensable adjunct of the hand-camera is a good reliable view finder, and the "Talmer" is fitted with one of Taylor and Hobson's, which are unsurpassed. The cameras can be fitted with a single instantaneous lens, or one of rectilinear type. For all ordinary purposes the single answers admirably, and is even preferred by some workers to the rectilinear. The lenses supplied with the "Talmer" are made of the new optical glass, and give marvellous definition and depth of focus. One movement changes the plate and sets the shutter, thus rendering it, as previously pointed out, an absolute impossibility to expose the same *plate twice*. An indicator on the shutter shows at a glance whether or no the plate behind the lens has been exposed or not. This is an important feature. The shutter does not uncover the lens when setting, and can be adjusted to give either instantaneous or time exposures. The former can be varied as so to give exposures from one-fifth to one-twentieth of a second. The aperture of the lens may be closed, irrespectively of the shutter, which may, when desired, be set independently of the plate-changing arrangement; thus, in the event of the camera not being required in use for some time, the shutter may be released and reset when convenient, with no possibility of light or specks of dust entering the lens, which are so injurious.

The plate-changing arrangement is the very acme of simplicity, and compares very favourably to the clumsy, complicated, and gloriously uncertain movements by which this is effected in the generality of hand-cameras.

To change a plate, all that is necessary is to raise a small lever at the left-hand side of the camera, which, when released, descends automatically. This raises the exposed plate sufficiently high to lift it out of its groove, so that it may be placed at the rear of the rest of the plates. A small bag covering of improved construction (and which does not in the slightest degree entangle the plate during the manipulation of being changed) enables this to be easily effected without the slightest risk of fogging the plate, all light whatever being rigidly excluded. The exposure is made by simply raising a small trigger at the right-hand side of the camera, which releases the shutter and effects the exposure. If a time exposure is required, all that has to be done is to lower the spring to the bottom of the slot, when the lens will remain uncovered until the spring is raised to the top of the slot, when the shutter closes. The exposure accomplished, the indicating front descends, which remains in its position until such time as the exposed plate is removed to the rear, when all is ready for action. Nothing could be simpler nor nothing more effective. To convert the shutter from "slow" to "rapid," all that has to be done is to move—from right to left—a small lever, to be found at the top of the camera inside. When "time" exposures are required, a "stop" to suit the particular occasion may be used, as each lens is fitted with a rotating diaphragm, which is worked from the bottom of the camera outside. This is a very essential feature of the perfect hand-camera, and yet but very few possess it. The shutter works across the diaphragm, which is another distinctive advantage. The lid of the camera is fitted with a small circular spirit level, by which means it is always possible to ascertain whether the camera is being held perfectly true and square, during the critical moment of exposure. A thin strip of orange glass at the bottom of the camera enables the operator to tell at a glance the number of plates he has exposed.

The last plate of the batch is backed with wood, which refuses to lift like the rest of the plates, thus automatically indicating that the last plate has been exposed. From the above description it will at once be gathered the Talmer hand-camera is absolutely perfect. There are no complicated and unnecessary movements, everything is the essence of simplicity, and works with unerring accuracy and fidelity. Such is the Talmer practical hand-camera. The tendency of modern science is to replace mental and bodily effort with some mechanical equivalent. Some people endeavour to attain this with a marvellous combination of pushing and pulling levers, strings, etc., others ignore the matter altogether and adhere to the primitive system of dark-slides. Now any person can devise a box of more or less bulky dimensions, fit it with a few clumsy dark-slides, and call it a practical hand-camera." Possibly the instructions for using such an instrument would not read, "Place this lever here, pull out this or that string, and finally remove this and place it somewhere else." More probably it would aptly paraphrase thus: Place in dark-slide, pull out this string, and finally remove shutter of slide, and then fiddle with something else, possibly some focussing arrangement. What a splendid expression that word "fiddle" is, it will suit anything from a violin to a so-called practical hand-camera, in which the principles of fiddling are carried out to such a practical extent that it is even considered necessary to hold the instrument under the chin. With the Talmer, however, there is no fiddling, but only one operation, viz., the changing of the plate. Further particulars and specimens of work done by this wonderful instrument can be had from Talbot and Eamer, Blackburn. Prices of these instruments can be seen on front cover.—[ADVT.]

Development by Pyrocatechin.

By GEO. W. BASKETT.

PYROCATECHIN much resembles pyrogallol, being light and fleecy, and easily soluble in water. In price, as in other ways, it differs much from pyrogallol, this latter being 1s. per ounce, whereas pyrocatechin is 32s. per ounce. In use, however, the difference in cost is very little. Pyrocatechin is remarkably stable in solution, so much so that as a developing agent it is used entirely without preservative. Sodium sulphite or sodium metabisulphite can be used, but it is doubtful if any advantage accrues. Very remarkable latitude in exposure results from its use, and a not less noticeable diminution in halation round the delicate branches and leaves of trees, and the sashes of windows. The most remarkable property of pyrocatechin, however, appears when it is considered as a *hot weather* developer. To those who practise photography in tropical countries the statement will be welcome that development can be *finished* with a developer heated to 160 deg. F. without any precaution or previous hardening of the plate, and the film does not melt. At the commencement of development the solution can be used at 80 deg. F. or 90 deg. F. without melting or fog, and the temperature can be gradually increased up to certainly 150 deg. F. with no evil results, provided that not more than the normal amount of accelerator be used. As in all such operations, this increase of temperature is a great accelerator, but no fog results. It should be stated that the plates used are Ilford ordinary, and Mawson and Swan's Castle plates, the latter being preferred owing to a certain inherent quality in the film, to be referred to. It will be noted that this valuable quality of hardening the film commences and proceeds concurrently with development. Immediately after the washing following development the film can be surface-dried with blotting paper without adhering, and what is more remarkable, can be at once placed in the sun, or in the kitchen oven with the door left open, to dry. If preferred, after partial drying in the oven, its complete dessication can be hastened over a hot plate or within a few inches of a gas flame. At this stage it is almost impossible to melt the film at any temperature at which the glass support is safe. Frilling will only occur from the loosening of the film at the edges by handling, or by the use of double the normal accelerator; and should it appear, the frills can be pressed down after washing with a roller squeegee. There can be no object, of course, in using a heated developer, except to force out detail at the end of development.

The appearance of the plate after development differs remarkably from those usually seen. By a side light on the film side a perfect positive can be seen, whilst the image itself is of a light brown but strongly non-actinic colour. The finest detail to an extraordinary degree in a properly exposed plate can be brought out, whilst the image is, owing to its colour, really denser by about 40 per cent. than it looks, unless the colour is taken into account. The well-known "relief" of the image in a properly exposed pyro-developed negative is much more strongly marked with pyrocatechin, and this relief can be greatly increased by washing in water at 100 degs. F. or over. It is probable that the possibility of washing at this high temperature is in favour of hypo elimination. Density more than sufficient for carbon printing, or delicacy and detail, admirably suited for portraiture, can be obtained at will. A two-ounce bottle of stock solution will develop fifty quarter-plate negatives, using fresh developer each time, and much more light can be used *after development has commenced* than is usually the case. Sixty-times plates have not been successfully developed, but it is not alleged they cannot be. There

is only a slight change of colour in the solution during development when *no* preservative is used, and this is due to contact with the air by rocking. If a covered dipping bath be used, the discolouration is scarcely noticeable. The slight discolouration first mentioned may, if preferred, be prevented by rinsing the developing dish with a medium solution of sodium sulphite or a weaker solution of sodium meta-bisulphite before pouring in the developer, or (what amounts to the same thing) by adding a few drops to the developer. One essential is absolutely required, that is *time*; but several plates can simultaneously be proceeded with in perfect safety and with increased economy, but development *must* be carried to the full, and until the "whites" of the picture, which are very persistent, just begin to change colour. With the writer, the time required is regarded as a distinct advantage, although there are means of hastening development. It is certain that any plate that can, without injury by heat, be carried into the torrid zone, can, by pyrocatechin, be safely developed there. The 2 oz. bottles mentioned would cost about 6d., being a simple one per cent. solution of pyrocatechin. Solely for the want of experiment, the writer will at present only answer for the perfectly successful behaviour of Castle plates. A splendid sample of pyrocatechin is supplied by Messrs. Hopkin and Williams, of Cross Street, Hatton Garden, by the drachm.

Formula.

A.—Pyrocatechin . . . 1 per cent. solution.

B.—Potassic carbonate . . 20 per cent. solution.

(Both in distilled water.)

Take distilled water 1 oz.; A, 8 to 12 drops; B, 30 to 50 minims. Commence with smaller quantity of B, and develop *fully*.



Monocular Stereoscopic Camera *

By W. I. CHADWICK.

It is quite possible to make stereoscopic pictures by an single-view camera, and before Dancer, of Manchester, introduced the twin-lens camera, all stereoscopic pictures were made by single-lens instruments. First a plate was exposed on a certain subject, next the camera and lens was moved as much as was considered necessary—generally by means of a sliding base-board—and a second plate exposed. Thus two slightly dissimilar negatives were produced, from which the prints were made. Such an arrangement, however, was entirely useless for moving objects, and it will be seen that for such subjects as sea and sky landscapes, with

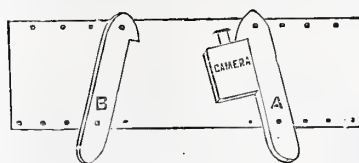


FIG. 1.

figures or cattle introduced, and even for foliage subjects, except under the most favourable conditions, the single-lens camera is quite out of the question. In support of what he said, Mr. Chadwick exhibited a stereoscopic slide, the portrait of a gentleman, made by a single-lens camera at two exposures. It was seen that under each exposure the sitter had been still enough, and was clearly distinct in both pictures, but between the first and second exposure a movement in the position of the head had taken place, and when the slide was viewed by the stereoscope the effect was very grotesque; that of a ghost of a head nearly twice the natural size, with three eyes, two noses, and a mouth of extraordinary length. The lecturer, continuing, said—I do not know of any amateur pursuit that can boast of so

* Read before the Stereoscopic Club.

many inventors, patentees, writers, and teachers as are to be found amongst photographers.

To some extent it has always been so, and, I presume, it will remain so, though modern inventors have not yet begun to assert themselves to any great extent in stereoscopic matters. They are willing to be led by some of the older hands, who are supposed to know more about the subject, and it will be contrary to the objects for which this club is formed, to allow false theories and erroneous practices to pass unchallenged.

It has been contended by several writers in recent publications, that, as the optic axes naturally converge to some particular spot when viewing natural objects, so the axes of the lenses should converge in like manner; and it has been stated by some of these writers that this alone is the correct theory for making stereoscopic photographs.

The illustration (fig. 1) is reproduced from an article written in support of this convergent theory, and is intended to represent a base-board on which are two adjustable bars or guides, A and B. Against one of these the camera and lens is placed and an exposure made; the camera is then moved to the left-hand guide, and a second exposure is made. Thus the axes of the lens converge (the amount of convergence, as the author states, is exaggerated in the drawing). But this converging-lens theory is entirely *wrong*. Every photographer knows that to photograph the elevation of a building with parallel lines, as at fig. 2, the sensitive plate must occupy a position parallel to the face of the building with the axes of the lens at right angles, and if the plate and the axes of the lens be oblique, as at A, fig. 1, we should produce the face of the building in perspective, as at fig. 3, and if the camera be moved to B (fig. 1),

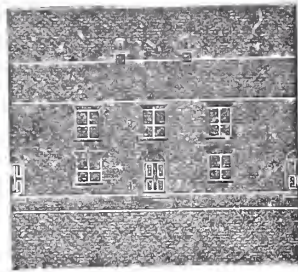


FIG. 2.

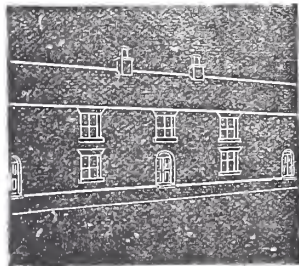


FIG. 4.

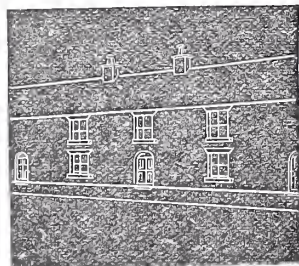


FIG. 3.

the plate again oblique to the face of the building, we should again produce the lines in perspective, but in the opposite direction, as at fig. 4, and if two such pictures are mounted for stereoscopic observation, they will not coalesce, and by the stereoscope only a mass of confusion will be visible, as at fig. 5, where the lines, as at fig. 3 and 4, seem to cross each other, instead of which they ought to be parallel, as at fig. 2.

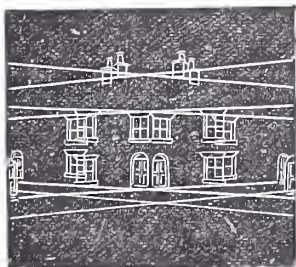


FIG. 5.

Other illustrations of black-board diagrams were used to show that the stereoscopic camera should be provided with twin lines having their axes parallel and the plate at right angles to their axes.

The Picture Galleries.

THE ARTISTS' ALLIANCE.

By "SAURIAN."

THE first exhibition at Marlborough Rooms of a Society which was incorporated in 1890. There are both oil and water-colours hung, among the more noticeable of the oils being Bernard J. Lucas's "Source of the Ilugury," a softly-coloured, harmonious picture, as is also G. L. Beetholme's "Swallow Falls, Flood Time." The "Huguenots' Burying Ground, Wandsworth" (W. Ascroft) is ambitious and fairly executed. "Kathleen" (F. B. Warren) is a good pose, but the treatment is rather hard. The detail in "Still Life" (F. Colenutt) is good, considerable skill being evident in the treatment of a favourite subject, dead pheasants. Mr. Colenutt's "Stormy Morning" gives evidence of equal care. "The Village Smithy" (H. Atkinson) is a successful treatment of an interior lighted by the glow of the fire. Mr. Hamilton Marr, A.R.C.A., contributes a little gem in "On the Mountains, Dolgelly," while Miss Sophie Marr exhibits the finest painting of flowers, "Eucharis," that we have seen. "Ranock Moor, N.B." (W. Barry) was accepted by the Royal Academy, but crowded out. "Spring Flowers" (Miss C. E. E. Watson) is an effective rendering of dahlias. "Grapes" (H. M. Livens) deserves notice. Miss Georgina B. Hughes contributes a fine copy of a portrait of her father in his younger days. In the water-colours, "Flowers" (B. K. Devas) is an excellent study of daffodils. "Conway Castle" (W. Chris-Stevenson) is "deeply, darkly, desperately blue," intended, presumably, for a moonlight view. The "Mouth of the Orwell" (C. J. Ellis) is a calm, sympathetic picture. "Loen Vaud, Norway" (R. J. Gordon) is the most effective water-colour in the exhibition; it is a daring but successful attempt. "Coast near Banff," by the same artist, is also a careful piece of work. "Flowers" (Miss E. P. Grove) is an admirable painting of marguerites, the colour being relieved by the presence of a Peacock butterfly. Miss Louie Fisher is most successful in her "Study of Vases." "A Peak of the Wetterhorn" (E. J. Hewitt) is attractive. In the black and white section, Mr. Hamilton Marr sends several excellent sea and cloud studies, and "Evening, Ryde," by Creole, makes a charming picture, as does also "Rocks, near Bonchurch."

MR. WALTER CRANE'S DESIGNS.

By "LOITERER."

Despite the fact that picture exhibitions are not most enjoyable "when the fountains fall soft on the stillness of June," I ventured to visit the Fine Art Society, where there are to be seen many designs, original drawings for book, decorations, and pictorial work by Mr. Walter Crane, A.R.W.S. The profusion of examples of Mr. Crane's versatile genius is interesting on its own account. Here we have his first efforts in the toy-books of a quarter of a century ago, and there we see his latest efforts in 1891 of black-and-white design. There is a breadth and a growth of power in his later work which is very marked. As Mr. Stanley Little aptly remarks, "Finish is only true finish when the labour ends, when the desiderated impression is conveyed," and in some of his black-and-white designs there does not appear to be an unnecessary line. Most people will enjoy "The Bridge of Life," over which are inscribed the following lines:

"What is Life? A bridge that ever
Bears a throng across a river,
There the Taker, here the Giver.
"What is Life? In its beginning
From the staff see clothes springing
Golden thread and worth the winning.
"Life with life fine woven ever,
Life the web and Love the weaver,
Atropos at last doth sever.
"What is Life? To grief complaining,
Fortune, Fame, and Love disdaining,
Hope, perchance, alone remaining."

There is much vigour, if not grace, in "Passing the Torch" (29). "Morning" is an exquisite piece of painting. A good deal of attention may well be directed to "The Triumph of Labour," which is a splendid design, although it seems almost over-crowded with figures.

Our Contemporaries.

The *Photographic Times* says:—"Those familiar with the working of the carbon process upon glass know the powerful force exerted by the contracting gelatine. It is no unusual thing for a piece of glass, whose surface is rather curved, to be broken to fragments by the gelatinous coating. We have seen the glaze from the interior of a porcelain evaporating basin stripped away in patches, from a similar cause. Whether from photographic experience or not, we cannot say; but it has recently been discovered that the process, hitherto kept a profound secret, for producing the so-called 'crystalline glass,' is based upon this property of gelatine. The glass is coated with a thick solution of glue, and then placed in racks to dry at a temperature of 95 to 100 deg. After a while the contractile power becomes exerted, and portions of the surface are literally torn away by the glue in all manner of fantastic forms and patterns."

The *American Journal of Photography* says:—"Nothing is more easily and plainly exemplified than the unpleasant effect of ill lighting. Let the handsomest member of any family favoured with average good looks (whether it be man or woman, old or young, it matters not) stand himself up at night, or in a darkened apartment, and let another member of the family take a good lamp and place it at any angle or in any position which he may choose with regard to the head and face of the individual posed, so that he always keep it below the level of the head; and let the other members of the family decide whether they would admire and value a picture of the one so seen under any of the varied aspects which he or she would present. I think we may safely say that in ninety-nine cases out of a hundred they would not. The mode of studying the varied effects of light and shadow by a lamp placed in different positions with regard to the head and face, is a very simple and excellent one. It is open to all who feel sufficiently interested in art to give a few minutes to it, and exemplifies the wonderful effects of light and shadow in either the making or marring of a good human countenance. It may be objected that this mode of lighting is too strong and too exaggerated (and so it would be for refined countenances) to be photographed. Of course, we must then have a softer and more diffused light; but the principle is precisely the same, whether it be a soft or a powerful light. It must fall from the proper direction."

Wilson's Photographic Magazine says:—"To repair broken negatives, place the negative, gelatine side down, on a plate rather larger than the negative. Coat the edges of the fragments with warm Canada balsam; join them together, using strong pressure. Remove the excess of balsam, then cover the negative with another plate exactly of the same size, and previously coated on one side with neat varnish:—

Sandarac	3 grammes.
Mastic in tears	3 "
Sulphuric ether	50 "
Benzole, pure	25 "

Lift together the three plates, turn them over, remove the large one that has served as a support, scrape off from the gelatine side the balsam that may have exuded, then surround the two plates with strips of gummed paper. Heat slightly the fragments before joining them together. This process will yield a print upon which no trace of breaking is to be seen."

Anthony's Photographic Bulletin gives the following formula for redevelopment of thin negatives which he has used with great success:—

STOCK SOLUTION No. 1.	
Mercury bichloride	80 gr.
Water	10 oz.
No. 2.	
Iodide potass	50 gr.
Water	6 oz.
No. 3.	
Bromide ammonium	50 gr.
Water	6 oz.
No. 4.	

Hyposulphite of soda—Saturated solution, a few drops at a time, till red precipitate is just redissolved.

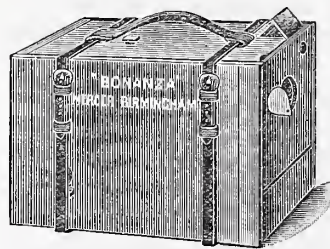
First dissolve the mercury, and then add Nos. 2, 3 and 4, in order. For redevelopment take of stock solution 1 ounce, and of water

1 ounce, and after thorough washing, proceed as in ordinary developing." It also gives the following method of getting rid of the yellow stains on prints which have been left for some time untuned:—"One day after doing my printing, and having but a few more prints to make, I deferred them till next day, but when morning came I was called away on a journey, and on coming back I looked over the prints that had been left, and noticed that as they had become but slightly discoloured I thought I would tone them, and when about to put into the hypo bath I bethought me if the acid sulphite is so good for removing the yellow colour from a negative, why not try it on these prints, which I did, and the prints were so satisfactory both in colour and tone, that I continued the practice of its use. On thinking over the subject I could not then see any reason why it should be hurtful to the prints. My work is landscape, mostly stereoscopic, and I have prints in stock that were made all through last spring and summer, and they are now as clear, pure, and of as good tone as when first finished, and from my experience I have no hesitation in saying that by mixing a small quantity (half that recommended for negatives) of the acid sulphite with your hypo and not using it a second time, that you will have better tones and clearer prints than you will get by using plain hypo or hypo with ammonia or carbonate of soda, as is sometimes recommended."

Apparatus.

THE "BONANZA" CAMERA.

ANOTHER new hand-camera, to carry twelve quarter-plates, which are placed in wood sheaths and secured by turnbuttons, and the whole of them placed in a removable reservoir. There are three simple motions in changing the plate; a button at the top of



the camera is turned as far as it will go, and then by means of another button at the side the reservoir is brought to a horizontal position; and a quarter turn to the third button allows the plate to fall into another reservoir. Of course, the reservoir has to be turned to the vertical position before the next exposure. The camera

is well made in ebonised wood, and is fitted with a lens working at $f/11$, a roller blind shutter, and one view finder. The makers are Messrs. R. and A. J. Mercer, 16, King Street, Sparkbrook, Birmingham, and the price is £3 3s.

RELIABLE READY-SENSITISED PAPER.

Messrs. John Charles and Co., of 2, Bedford Street, Strand, have sent us a sample of their new sensitised paper, which they produce in three colours—pink, white, and mauve. It is a good paper, prints quickly, and tones readily in any of the ordinary toning baths. They, however, recommend the following formulae, as giving particularly good results with the paper, and we found that No. 2 gives a fine purple in a very short time:—

No. 1.	
Sodium acetate	120 grains.
" bicarbonate	5 "
Chloride of gold	5 "
Distilled water	20 oz.

Must be mixed at least twelve hours before use, and will keep well if excluded from light.

No. 2.	
Borax (powdered)	82 grains.
Acetate of soda	45 "
Bicarbonate of soda	22 "
Distilled water	20 oz.

One grain of chloride of gold to five ounces of this solution. It will keep well, it being only necessary to add a little chloride of gold occasionally.

Weymouth.—Photographic apparatus may be had on hire at Smith's Supply Stores, 35, St. Thomas Street, Weymouth. Plate paper, and chemicals are stocked.

Holiday Resorts and Photographic Haunts.

SANDOWN, ISLE OF WIGHT.

By H. MACLEAN.

THE Isle of Wight has long been famous for its scenery, and although the choice bits have been done "full many a time and oft," there still remain hidden away many charming scraps, if one will but go a little off the beaten track. Anyhow, those who have not yet visited the Royal island will find a rich store of sea and land scapes awaiting them. For several reasons, the best town to select as head-quarters is Sandown; its strategic position is undeniable. In one direction the railway runs to Ryde and Bembridge, in another to Shanklin and Ventnor, while a third line connects Sandown with Newport, Cowes, and Freshwater.

Subjoined are some itineraries which the roving photographer will find useful.

Proceeding east along the road by the sea, and passing on our way some batteries, a village of thatched roofs, and a darksome but picturesque avenue, we come to Yaverland (1 mile). Here are a fine ancient manor house and a small quaint church, which latter has, however, quite recently been much spoilt by zealous but injudicious improvements. Both these structures are worth a plate.

Passing through pleasant lanes for some $3\frac{1}{2}$ miles, Bembridge is reached; here, chief amongst other objects, is the "Ducie Avenue," which cannot be given less than two negatives. Returning by way of St. Helen's Quay, we may possibly, in the harbour or round about by the links, pick up some shipping and other studies. At Brading, the church and "Little Jones' Cottage" are generally taken; passing through Yairbridge we reach our starting point again, the whole round being not less than ten miles; it can be shortened by taking train back at Bembridge, St. Helens, or Brading.

Another pleasant and profitable trip is obtained by walking along the beach to Shanklin (2 miles). The walk should be timed so that Shanklin is reached about an hour before low water, or it may be impossible to walk along the sea-shore. Proceeding past the famous chine (which should be visited on a separate occasion), we come upon some secluded little coves possessing a certain amount of unconventional charm, and about one mile from Shanklin, arrive at Luccombe Chine; here, whether along the shore to the west or on the way up the chine or on the cliff-top, is an abundance of subject; if still more is wanted, the "East Landslip" is close at hand.

Very different to the foregoing routes is the following. Traversing the Avenue Road, and passing under the railway arch, we turn to the left (note view of farm buildings), and a few paces along find on the right a footpath which leads to the banks of the Yar. By following the course of this river as it winds across the marshes, we meet with compositions which appeal to a too limited section of workers; dykes, rushes, and other water plants, cattle, brooks, and rudely-fashioned foot-bridges, the distance, and, less frequently, the middle-distance being diversified ranges of hills. About a mile as the crow flies, but farther as the tourist rambles, a rough cart-track is struck, which crosses the Yar. Following this eastward, we then turn to the left, and in a few minutes reach Alverstone Lynch. This is another of those captivating arrangements of nature which do not lend themselves in everyone's hands to easy translation into a picture. Apart from this it is one of the most charming, although but little known, sylvan nooks on the island, with its sandstone banks, its swamps and water-courses, its trees and tangle.

Hard by is Alverstone Mill, in which vicinity we find much suggestive scenery. Continuing by the stream side, the path suggestively wanders through fields and woods towards Newchurch. Very satisfactory to the senses is this particular portion of our tramp. Would that our camera could record the meads ablaze with golden iris, and glittering with lilac arches and ragged-robin! Would that it could retain the scent of meadow-sweet and dog-rose, the song of the birds, and the lowing of the kine. Newchurch is about $1\frac{1}{2}$ miles from Alverstone Mill, and employment for a few plates will be found mainly at the church, which certainly is out of the ordinary. In returning to Sandown we follow the high road to Alverstone, leaving it about half a mile before reaching the latter hamlet, and proceed across Blackpan Common to Sandown.

The above are representative of many other pedestrian excursions available: Godshell, Whitecliff Bay, Gotecomb, Sea View, Nunwell, and Arreton should be explored on "Shanks' mare."

Further afield are Carisbrooke Castle (good for six plates), Ryde and Cowes (offering frequent chances of taking crack yachts under weigh), Ventnor (Steeple Cove), and Blackgang. At the far west end of the island are the Needles, Alum Bay, and Freshwater (the home of Tennyson), well worthy of a visit, although not specially interesting to photographers.

Mr. Dore, jeweller, High Street, Sandown, has a dark-room for developing, the charge being sixpence an hour. There are also dark-rooms at Shanklin and Ryde available for amateurs. The bathing, boating, and the sands at Sandown are unsurpassed by any resort on the island.

Quarterly Examinations in Photography.

Question 34.—How would you recover platinum residues from paper etc., as used in photographic processes?

ANSWER.—(a) Paper. These consist of trimmings of prints and spoilt prints, and may best be recovered by calcining in a porcelain crucible, preserving the ash.

(b) Solutions, washings, etc. A few drops of a solution of nitrate of mercury added to these will precipitate most of the platinum not already precipitated, which precipitate being collected is added to the residue from (a). The solution is then evaporated to dryness and calcined as before, and residue again added to (a).

These residues are now hoiled in strong hydrochloric acid to remove any iron, mercury, or potassium that may be present, and filtered and dissolved in nitro-hydrochloric acid which gives the platonic chloride from which the platinous chloride, or rather the double chloride of platinum (ous) and potassium called chlore-platinite of potassium, is obtained.

Question 35.—How would you intensify a black and white line negative?

ANSWER.—If the negative were a gelatine one I should first reduce it slightly, so as to make sure of clear shadows, and then wash well. The reduction is easily done by adding a few drops of a 5 per cent. solution of potassium ferricyanide to the fixing bath. The negative is now bleached with a 5 per cent. solution of bi-chloride of mercury, and after being well washed is intensified by cyanide of silver.

If the negative is a collodion one I should use the lead intensifier as recommended by Mr. Wilkinson for photo-mechanical printing, as this gives very great density with clear shadows. As in all collodion processes, this is simply flowed over the plate till sufficient density is attained.

The undernoted are the formulæ for gelatine plate, recommended above:—

No. 1.					
Mercury bichloride	...	...	...	...	1 oz.
Ammonium bromide	...	...	...	...	1 "
Water	...	...	...	...	20 "
No. 2.					
Nitrate of silver	...	...	...	...	$\frac{1}{2}$ "
Water	...	...	...	...	15 "

Add saturated solution of potassium cyanide till the precipitate formed is dissolved.

Question 36.—Are gelatine dry-plates to be depended upon for accurate scientific measurements? Give reasons and authorities for your answers.

ANSWER.—Gelatine dry-plates are not to be depended on for accurate scientific measurements. The light, owing to the opacity of the gelatine film, is scattered, acting on those particles of silver near it, while, as pointed out by Abney, the developer acts on the silver salts even unexposed in contact with light-reduced silver salts.

For astronomical purposes several attempts have been made by different authorities, Henry, Brothers, Gill, Roberts, etc., and various dodges—such as shifting the plate, thus getting two or three images having different exposures, and calculating the increased size therefrom, and again causing the plate to move slowly in one direction, thus giving an elongated image—have been tried. Professor Gill's method of giving a definite time for development seems to give the most accurate results.

Reviews.

The International Annual of Anthony's Photographic Bulletin.
 Edited by W. Jerome Harrison, F.G.S., and A. H. Elliott,
 Ph.D., F.C.S. (New York: Anthony and Co., 591, Broad-
 way. London: Iliffe and Son, 3, St. Bride Street, E.C.)

This "Annual" was published, we believe, on the first of June, but has only just been sent us for review. It has been the custom always to publish in the middle of the year, and it has therefore earned for itself the name of the "Summer Annual." It is not as ambitious as a recently issued annual, but to the amateur photographer it is much more interesting. Articles are contained upon all "sorts and conditions" of photography, and it is hardly possible to open the book without finding some useful information. The contributors include most of the best known writers upon photography in this country and New York. Of articles by writers on this side the Atlantic we note: "About Carbon Printing," Geo. Bankart—"Home Portraiture," R. A. R. Bennett, B.A.—"Bromide Printing," A. R. Dresser—"The Illumination of the Dark-Room," Ed. Dunmore—"Improvements in Lenses," H. Chapman Jones—"How to Bear One's Burden," Rev. F. C. Lambert, M.A.—"Albumen Tones on Bromide Paper," Clement J. Leaper—"A Plea for Impressionism in Landscape Photography," Henry R. Moiser, F.G.S.—"Pictures in Natural Colours," J. Harding Warner—"Systematic Exposure," Alfd. Watkins—"Norway and Switzerland," C. J. Watson—"On the deterioration of Lantern Slides on Gelatine Bromide Plates," T. N. Armstrong—"Stoke Pogis Church and Burnham Beeches," A. W. Beer—"Enlargements made Easy," Rev. J. Carter Browne—"Alpha Lantern Plates," A. R. Carnell—"Printing through Green Glass," Geo. A. Carruthers—"The Investigations of Hurter and Driffield," H. J. Channon—"Bromide Printing," J. W. Crowse—"Photographic Chit-Chat," by Emily Culverhouse," a poem which treats of the past, present, and future of photography. Of the detective or hand-camera Mrs. Culverhouse writes:—

"You walk in a secluded place
 With her—the sweetest of her race;
 You whisper, with a fond embrace
 Of love enthusiastic,
 When lo! occurs a dire mishap;
 Among the trees—an ominous snap,
 You're taken—wouldn't you like that chap
 To treat with measures drastic!"

"Printing in Red, Brown, and Black," W. J. Harrison—"The Development of Hand-camera Negatives," A. R. F. Evershed, M.R.C.S.—"A Mixed Developer, Eikonogen and Hydroquinone," J. A. Forrest—"Concerning some of the Things Renounced by an Eminent Art Teacher," W. Howson—"The Camerangler," Martin J. Harding—"Combination Lantern Slides," John Kanner—"To Correspondents," I.H.E.J. Harris—"Some Notes on Lenses," J. A. Hodges—"Photography and Painting," Frank Hopps—"Through Norway," E. H. Jaques—"Places worth Photographing," Richard Keene—"The Hydroquinone Developer, its Advantages and Relative Capabilities," C. Hethton Lewis—"An Extemporised Dark-room," R. L. Maddox, F.R.M.S.—"The Lantern Rostrum," G. G. Mitchell—"A Graduated Standard Negative for Printing Bromides," H. R. Proctor, F.C.S.—"Rambles In and Round London with a Camera," Harold Sands—"The Future of Nebula Photography," Albert Taylor, F.R.A.S.—"Substitute for Swing Backs in Hand-cameras," J. Traill Taylor—"Black and White," E. J. Wall—"Advances in the Science of Photography," Capt. W. de W. Abney, D.C.L., C.B., F.R.S.—"A Novel Dissolving Attachment to the Ordinary Slide Carrier," W. Lang, jun., etc.

The list given is hardly complete, but is sufficient to show how varied are the articles in the Annual, and those contributed by American writers are of equal variety and interest. The book contains nearly 500 articles and some 470 pages, and will be read with much benefit by amateur photographers. The English editor contributes a few notes on "Some Novelties of the Year," which are far too restricted; several tables and a capital list of photographic societies at home and abroad, complete the "Summer Annual." The printing is excellent, and so are the illustrations.

Guernsey.—Mr. W. H. Cumber, jun., of 4, Fountain Street, Guernsey, writes us that he has added a dark-room to his premises. Further particulars can be had by applying to us in the ordinary course.

"Amateur Photographer" Com- petition.

PHOTOGRAPHY AT HOME.

Photographs have been received from the following:—

1. PRICE, Leopold, Torquay (8).—A Portrait—Among the Ruins—In my Garden—Taking it Easy—An Open-air Sermon—The Rising Generation—In Pomeroy Castle—A Family Group.
2. EDWARDS, A. E., Beeston (8).—Home from Rose Garden—A Quiet Five Minutes after Lunch—A Little Bit for Doggie—I've been Blackberrying—"Harmony" and "Silver Queen"—Fun in the Hayfield—Blackberrying—Fetch, Riskie.
3. COLVILL, Mrs. Agnes D., Shrewsbury (8).—Blow, Blow, thou Winter Wind—Tired—May I Give you some Tea?—A Sunny Afternoon—The Three Graces—A Family Group—The Season's Greetings—Push Together.
4. DAVIS, Theodore, Clevedon (8).—Two Men in a Boat—Boating—A Lady of the Lake—Our Boys—A Family Group—A Winter Evening—A Portrait Study—Afternoon Tea.
5. LLOYD-ROBERTS, Ada H., Twickenham (5).—An Old Friend—May and December—Three Friends—Mischievous in Repose—The Master of the House.
6. DRESSER, A. R., Bexley Heath (8).—Ploughing (2)—As Much as he can Manage—Cattle Study—A Rest by the Brook—On the Cray—A Flea, Mamma!—We are Eleven.
7. COLE, Miss Margaret, Lewes (8).—My Six Brothers—Their Backs—The Olden Time—The Return—The Honeymoon—Mounted Infantry—"Arethusa" Boys—Madame La Marquise.
8. TAYLOR, Thomas, Birmingham (4).—The Invalid—The Convalescent—Lady on Horse—Laburnum.
9. STIEGLITZ, New York, U.S.A. (8).—Study of Head—Portrait—Prof. H. W. Vogel—Fedor Encke—Miss Poldi—An Old Lady—In the Park—Alfred Stieglitz.
10. SHARLAND, Rev. G. F., Thurlow (4).—Maudie—A Discussion—Hush!—Mrs. J. W. Loxdale.
11. ROBSON, R. S., Tyne Dock (8).—Lawn Tennis Group—Nydia—Lady in Greek Costume—Two Darlings—Lady in Ball Costume—May Queen—our Pet—Septina.
12. GOTTLIEB, A. W., Shrewsbury (7).—One of the Noble 83rd.—One View from Our House—The Invalid's Friend—The Amateur Photographer—Winter and Summer—Hark! Listen to the Cuckoo—I shall Fall.
13. GURRIN, F. W. Carisbrooke (8).—Ready—A Visitor—A Dominican Cloister—The Powers that Be—A Group of Brethren—Getting up his Sermon—Some Cousins—The Monastery's Stud.
14. HUNT, William Henry, Birkenhead (8).—Little Bo-peep—A Yarn—Simple Simon—"Piano"—"Forte"—At the Window—Open your Mouth and Shut your Eyes—Afternoon Tea.
15. CARRUTHERS, George A., Birkenhead (8).—Feeding the Nestlings—Tired Out—Fagot Gatherers—Sunday Morning—Practising for the Harvest Home—Gossiping—A Bit of News—Users of Sunlight Soap.
16. THOMSON, Wallace G., Halifax (4).—My Brother—Twenty and Seventeen—A Morning Ride—A Portrait.
17. FIRTH, George F., Wakefield (4).—Fiddle and I—Yes or No—A Fix—The Favourite Rabbit.
18. NYE, Hubert, Clapham Rise (4).—Five o'Clock Tea—Interested—A Brown Study—Portrait.
19. BROOME, John J., Winchester (4).—Portrait (2)—Group—Portrait.
20. BALLARD, Miss Susan, Redhill (8).—Portrait (2)—Springtime—Oh! Rare Pale Margaret—Sisters—Group—In the Garden—Sweet Seventeen.
21. PERROTT-SMITH, C., Bedford (6).—Bedford Lace Making—This Little Pig went to Market—Group—Pirates of Penzance—Mabel and Frederic, Ditto—Sam Weller and the Pretty Housemaid.
22. TIMS, J., West Ewell (4).—In the Meadow—Watching the Little Fishes—It's My Turn—Resting in the Shade.
23. CLARKE, S. Francis, Louth (7).—The Infant—The Schoolboy—The Lover—The Soldier—The Justice—The Pantaloon—Second Childishness.
24. GAUNTLETT, Edwin, Peckham (5).—The Son and Heir—An Assistant Amateur—Our Daughter—The Pet of the Household—Our Maid.
25. MARTIN, W. C. H., Ledbury (4).—A Pensioner (2)—A Pensioner's Wife (2).
26. BLAKE, A. H., Eton (4).—The Old Man's Darling—Good News—Bad News—Helping Mother.
27. WAIN, Edward B., Stoke-on-Trent (6).—A Man of Polish—A

- Merry Tune—His Saturday Paper—A Difficult Passage—Good Bye!—Home Treasures.
28. CHURCHILL, C., East Greenwich (4).—Dolly—Ditto—Jack—C. S. and Daughter.
29. DILLON, Hon. Miss, Wychwood (8).—A Rustic—Algerian Orange Seller—Fatima—An Old Hero—Ishtar—A Persian Mother—A Hard Winter—Arabian Principles.
30. KINDERMANN, H., Kensington (4).—Lawn Tennis—The Serve—Meditation—Tiddlewinks.
31. JERVIS, John Chester, Nice (4).—The Militaire en Retraite—The Militaire en Retraite (chez lui)—Le Diner en Retard—Le Chateau de Cartes.
32. THORNTON, John James, Southsea (8).—Fisher Boy—After You—Keep Still, you Little Minx—I'm Quite Ready—A Market Lassie—Old Jack—What's he Got, Jem?—The Village Wake.
33. BRANDRETH, Benjamin, Hoylake (7).—Prince—Gelert—Foxy—Portrait (2)—Cricket Team—A Merry Group.
34. GRAY, Miss Alice H., Anerley (5).—Tired Out—Listening for the Cuckoo—Her First Sorrow—The Age of Innocence—My Fancy Dress.
35. WINN, Ernest, Selly Hill (6).—Group after Tennis—A Summer Day—Vase of Narcissi—Chums—Meditation—A Little Artist.
36. GOODWILLIE, Henry, Dublin (8).—Do you take Sugar?—You can have the Ninth Valse—Three Little Maids from School—The Stupid Girl, not know my own Name—Our Helmsman—My Chum—Mlle. A.—Mlle. X.
37. HARDING, Martin J., Shrewsbury (6).—Daydreams—A Reverie—Hilda May—His Grandmother—A Chip of the Old Block—Happy Childhood.
38. WILLIAMS, Geoffrey S., Bickley (4).—Pip at Home—Agreed to Differ—The Chicken Yard—A Grand Old Gardener.
39. GREENLEAVES, Ernest, Bournemouth (6).—Gee Up—All Serene—Good Morning!—How's that, Umpire?—Portrait—At Play.
40. BEATSON, Miss Henrietta, Marseilles (8).—The Schoolboy—The Soldier—Game of Reverse—The Librarian—La Dame Blanche—The Evening of Life—The Young Violinist—Looking Backward.
41. GRAY, Henry H., Anerley (4).—Our New Puppy—Sweethearts—In the Woods—Dot and Fay.
42. MILLER, James, Edinburgh (6).—The Barbours—Janie—The Waltons—George—Jessie—Robert.
43. KIRKPATRICK, Cyril, London (6).—Thames Coalheavers—Lionel—Miss Stephens—Farmer in South Wales—Mrs. Kirkpatrick—Captain K—.
44. URQUHART, D. E., Leicester (8).—An Old Woman—An Artist and his Canvas—His Model—Ready—Nan—Nan and Wuggie—Trying Effects—In Old Age.
45. SOUTHWELL, W. A., Stamford (5).—E. J.—Lady Angela St. Clair-Erskine—Tolethorpe—Lord Algernion Gordon-Lennox and Daughter—The Smithy.
46. TULLY, J., Hastings (4).—Granny—Pater and Mater—John—Little Frank.
47. ARNOLD, Professor J. O., Sheffield (4).—Spring: The Flower Seller—Summer: The Haymaker—Autumn: The Gleaner—Winter: The Fagot Gatherer.
48. SHAW, Miss Alice M., Brough (6).—Finishing Breakfast—In a Thoughtful Mood—A Friendly Few—The Flying Scotsman—In the Hammock—in the Sunshine.
49. GRACE-COLVERT, George A., Clapham Common (4).—Ten Minutes Interval—Advance, Australia—Billy and his Master—A Foster Mother.
50. BAERCLAY, Rev. Herbert, Salisbury (6).—Dolly—Portrait (3)—Out for a Drive—Will he Come?
51. WINDELER, W. B., Surrey (5).—Robin's Courtship (4)—My Lodging is on the Cold, Cold Ground.
52. SKINNER, Walter, Sheffield (5).—An Interesting Book—Going for a Walk—Playing Chess—What Shall I Say?—Our Darling Boy.
53. BLACKWELL, George W., Sheffield (5).—Music—Painting—Sculpture—A Quiet Pipe—Miss A. B.
54. WALKER, W. J. D., Laurence town (8).—The Cruise of the Clothesbasket—Grandmother Darning—Grandmother's Work Done—Dolly's Picture—Just Up—Wide Awake—Day Dreams—Happy Childhood.
55. SPEAKMAN, Arthur P., Manchester (4).—Lizzie—Cissie—The Christian Martyr—Lena.
56. HOUGHTON, H. J., New Brighton (4).—Mina—Gladys—Isabel—Leonard.
57. BIBBY, W. H., Blackburn (8).—In Full Bloom—And Sing I Must—Almanac—Group—I'm Waiting, Sir—Lily—So Busy—A Farmer's Boy.
58. DUMONT, John E., Rochester, U.S.A. (5).—Fabiola—The Bait Question—The Formula—A Good Hand—The Dice Players.
59. NIMES, Paul, Jaen, Spain (6).—Portrait (3)—A Quiet Game of Nap—El Fio Paso—After a Hard Day's Work.
60. BURY, J. Oswald, Wrexham (8).—The Herb Sellers—Springtime—A Serious Smoke—The Old Skipper—The Chairman of the Smoking Concert—My Wife and Bairs—On Duty—On Furlough.
61. BEARD, Lessey B., Clevedon (6).—A Mere Maid—A Little Man—Watching and Waiting—On Her Majesty's Service—General Gordon.
62. ASHTON, Ernest Russell, Tunbridge Wells (4).—A Lady Artist—Portrait of a Gentleman—Jackanapes—Marjorie.
63. WARD, Edward W. T., London (4).—The Hall, 71, Cadogan Square—Views of Dining-room, 71, Cadogan Square (3).
64. HODGSON, Miss Etheldred, Crawley Down (8).—Group—In the Woods—Brothers—Galway Market Woman—Sybil—Babes in the Wood—Oranges and Lemons—Expectation.
65. SPILLER, A. L., Hampstead Hill (6).—Home—Photograph of Banister—Portrait—Group—Cats—Afternoon Tea.
66. RAWSON, E. C., Upper Norwood (4).—Geoffrey—Mr. Rawson Buckley as Pygmalion—Ditto as Orsini—Portrait.
67. POWNALL, Miss F. M., Twickenham (7).—Our Carpenter—Portraits—Copy of Oil Painting—Ditto Crayon Drawing—A Rest on the way to Tea—Group—Water Carriers in the Frost.

Societies' Meetings.

Bath.—The first excursion of the season took place on the 24th ult., to Bradford-on-Avon, Avoncliff, and Winsley. A brief stay was next made at the top of the Bradford Road. In Bradford the principal object of attention was the old bridge situated beyond the town. Bradford and environs are so picturesque that it is hardly advisable to attempt too much on any one visit; for this reason the party made all possible haste to the weirs at Avoncliff in order to secure some views ere the light should be unsuitable. This done, the members were invited to the summer residence of the Vice-President, Mr. Austin J. King, where the host and hostess entertained the guests in the most hospitable manner; another very pleasant hour or so was spent in viewing the grounds and peeps of distant scenery obtainable therefrom, and it was not until the evening twilight had far advanced that the members returned to the city.

Bedford.—The outing to Olney, the birthplace of Cowper, on the 26th ult., was marred by unfavourable weather, and the attendance was consequently small. The party, however, included the President, one of the secretaries, and three lady members. The poet's house was of course "taken," but only a few plates had been exposed (the old bridge viewed from the river bank making a pretty picture) before heavy rain commenced and put an end to the afternoon's work. The party returned by train to Bedford.

Birmingham.—At the meeting on the 25th ult., Mr. A. H. Carter, M.D., in the chair, Messrs. Charles Barwell and L. Neal were elected members. The Hon. Secretary reported that the excursion committee had resolved on instituting a book for each leader of excursions to write his detailed report for future reference, etc. Dr. W. W. J. Nicol gave a paper on "Silver Printing with the Aid of Iron Salts." He fully described the processes of No. 1 and No. 2 kallitype processes invented by himself, and which at the present time he is still improving, going through the chemical technicalities with great detail, and finishing with practically demonstrating the development of the prints, which showed very fine depth of tone, etc. The Chairman said—Looking from the standpoints of scientific and high art, Dr. Nicol had certainly given a most able demonstration equal to the aspirations of the most exacting, not only in chemical formulae but had made all to understand clearly the working of that beautiful process. It is all-important in photographic societies we should understand the "why and the wherefore." Chemistry can tell us the "why and the wherefore;" but as in the old saying that "it takes two to make a quarrel," so in these photographic processes we must know both the technical and the practical. These Dr. Nicol had given them most thoroughly and lucidly, and although the rules of the Society did not allow votes of thanks to be given to lecturers who were members, he was sure the members present would join with him in doing so without putting it formally to the meeting. During the discussion which followed, Dr. Nicol, in answer to questions, said, "In printing from a thin negative always double the quantity of bichromate in the developer." "Sepia tones can be obtained by the addition of borax in the developer." "Printing by artificial light takes too long a time; even with oxyhydrogen or the electric light, printing is very slow."

Cardiff.—The usual weekly meetings have now been resumed for the purpose of dealing with exhibition matters. At the meeting on the 25th ult., the Hon. Secretaries stated the success of the exhibition was assured, the support of a great many leading photographers having been promised. A large number of members and friends

attended the Llantwit Major excursion, and a Hawkeye camera, sent by Messrs. Taylor, Taylor, and Hobson for the inspection of the members, did some good work. On Saturday several members attended the athletic sports, and some very good results were obtained. Owing to representations from the United States, it has been decided to extend the time for entries to July 31st.

Dukinfield.—The ordinary monthly meeting was held on the 23rd ult. The following gentlemen were unanimously elected members: Mr. Wm. Gilbert and Mr. Percy Rigby. The Hon. Secretary announced that owing to unforeseen circumstances Mr. Wheeler was unable to give his demonstration on "Bromide Printing." The President (Mr. J. T. Lees) proffered to show his method of developing the Eastman transparent film, and developed several films exposed in a hand-camera. The results were very good, though some of the subjects were badly lighted. He also made two bromide prints from film negatives. The developer used was eikonogen for both films and paper. On Wednesday the 24th ult., at the weekly meeting, Mr. J. W. Hadfield showed his method of developing portraits, using pyro and ammonia. There was a good attendance, and the demonstration was thoroughly enjoyed by all present.

Hackney.—The ordinary meeting took place on the 25th ult. under the chairmanship of Mr. J. A. Sinclair, Vice-President. Dr. Roland Smith gave an account of the Dorking outing, which was an enjoyable one. Mr. J. O. Grant presented the Society with a set of dishes. From the question box: How to get density in rapid plates? Mr. Hubert said it was necessary to modify development. Mr. Grant advised starting with soda and finishing with hydroquinone. Another question was put as follows: How to guide oneself in photographing interiors? Dr. Roland Smith gave a rule as follows: Divide area of room in cubic yards by area of window in square feet. This gives results in minutes, as a standard; vary the stop according to light. Mr. Hubert showed the difference in development a plate makes by varying the bath. One was developed with pyro and ammonia; the other was cut into two, and one half was developed with excess of pyro, another with excess of ammonia. The results showed apparently, though equally exposed, correct under and over exposure. Dr. Roland Smith then gave a demonstration of development, using pyro-ammonia, pyro-soda, hydroquinone and eikonogen mixed, etc.

Liverpool Amateur.—The fifth ordinary meeting of the 28th session took place on the 25th ult. Owing to the terrible thunderstorm there was only a limited attendance. Mr. Paul Lange in the chair. Mr. John Jarvis was elected a member of the association. The balance sheet of the Liverpool International Photographic Exhibition was brought up for discussion, and was, on the motion of Col. Ellison, and seconded by Mr. Glazebrook, unanimously "passed and approved." The best thanks of the Society were then tendered to Mr. T. S. Mayne, the Exhibition Hon. Secretary, to whose prolonged and arduous exertions the exhibition was carried through. The Society also asked Mr. Mayne to accept the sum of £50 as a mark of their appreciation of his efforts. Attention was drawn to the arrangements made for the holding of the Photographic Convention at Bath in July. The President stated that the Mersey Yacht Club Regatta would be held the following Wednesday, when members intending to photograph the yachts would have special facilities by booking their places on the steamer "America," which had been engaged to follow the yachts. The President showed some prints of submarine explosions taken by him recently outside the river Mersey during experiments of the submarine miners' division for the defence of the port of Liverpool. The principal picture taken illustrated an explosion of a 100lb. gun-cotton charge, the column of water forced up rising to over 100 feet. Mr. W. A. Brown then proceeded to read his paper illustrated with experiments on "The Chemistry of Photography."

Lowestoft.—A meeting was held on the 26th ult., Mr. W. Stringfield, in the absence of Mr. F. Mayhew, presiding. After the election of members, several topics arose for discussion, amongst them that of development, and it seemed to be the general opinion that pyro and ammonia afforded the best results. Some few supported hydroquinone, but admitted that negatives produced thereby did not print so satisfactorily. Several prints and negatives were passed round for inspection by Messrs. F. W. Emuss, J. Rose, and A. M. Smith, after which Mr. Stringfield showed a few nice lantern-slides, principally interiors.

North Kent.—The excursion to Otford took place on the 27th ult. The members went by train to Farningham Road, and then drove up the Darenth Valley past Farningham, Eynsford, Shoreham, to Otford. There was a fair attendance, and a good many plates were exposed. Mr. S. Hodsoll was the leader for the day.

Richmond.—At the meeting on the 26th ult., Mr. Cembrano in the chair, the "Development Competition," in which each competitor was required to develop two negatives of unknown exposure (one being under and the other over exposed), was decided. Mr. Cembrano acted as judge, and awarded the first place to Mr. Ennis

for the under-exposed, and to Mr. Hunter for the over-exposed plate. A discussion on the *modus operandi* of the competitors followed.

Southport Social.—On the 24th ult. Mr. Cross completed his demonstration on "Silver Printing." Prints taken by members from their own negatives were toned and finished ready for mounting. Mr. Cross very ably illustrated his various methods of printing, etc., from which both experienced and inexperienced members could take a lesson.

Wigan.—A meeting was held on the 25th ult. Mr. W. A. Varley exhibited a half-plate camera and stand of his own design and construction, which possessed many novel features and attracted much attention from the members. There are not many societies which can boast of an amateur member who never troubles a dealer for either cameras or lenses, as is the case with this gentleman. The AMATEUR PHOTOGRAPHER No. 18, "Inland Scenery" Competition prints were on view, and attracted a large amount of attention; the platinotypes and bromides especially being admired. Surprise was, however, expressed at the total absence of Alpha prints from the competition. The Hon. Secretary showed a waterproof focussing cloth, sent by the London Rubber Company, which was pronounced a good thing for the purpose. The library is now in working order. The members should have journeyed to Leyland on Saturday last, but, owing to the unpropitious state of the weather, the "out" was abandoned.



Postal Photographic Club.—Mr. H. E. Trew, of 107, Old Town Street, Plymouth, writes:—"There is a vacancy in our postal photographic club for circulation, etc., of prints, and I shall be pleased to send particulars to any one applying."

Kimberley Camera Club.—At the second annual meeting of the club, the following gentlemen were elected office-bearers for the ensuing year, viz.: President, Rev. Father Ogle; Vice-President, F. Skead, Esq., B.A.; Hon. Secretary and Treasurer, Mr. M. Macfarlane; Committee, Messrs. C. A. Chappell, J. Henry, G. D. Pieser, F. Titmas.

"AMATEUR PHOTOGRAPHER," 1891, LANTERN SLIDE COMPETITION (FOURTH YEAR).

Prizes:—Gold, Silver, and Bronze Medals, and Certificates in each class. Competitors to enter only *one* class; every competitor to contribute *ten* slides, and a "Lantern Slide Portrait" of him or her self.

CLASS I.—Landscape, Sea Pieces, and River Scenery, with or without figures.
CLASS II.—Portraiture and Figure Studies to include in-door or out-door pictures.

CLASS III.—Architecture, Interior or Exterior.

CLASS IV.—The Fine Arts, which may include copies of Pictures, Engravings, Sculpture, Art Metal Work, China, Bric-a-Brac, etc.

NOTE.—Every Competitor must send descriptive Notes.

Past prize-winners will be awarded "Niepce" or progressive medals, *should they win a medal of the same value as that which they have been awarded in past Lantern Slide Competitions.*

All slides must be received on or before the 30th September, 1891.

RULES, CONDITIONS, AND ENTRY FORMS will be forwarded on receipt of stamped addressed envelope. The application should be endorsed—

LANTERN SLIDE COMPETITION,

EDITOR, "AMATEUR PHOTOGRAPHER,"

1, CREED LANE, LONDON E.C.

"AMATEUR PHOTOGRAPHER," 1891, STEREOSCOPIC SLIDE COMPETITION (FIFTH YEAR).

Prizes:—Gold, Silver, and Bronze Medals and Certificates in each class. Competitors can only enter *one* class, and every competitor must contribute *six* slides.

CLASS I.—Landscape, Sea Pieces and River Scenery, with or without figures.

CLASS II.—Architecture, Interior or Exterior.

CLASS III.—The Fine Arts; which may include Sculpture, Art Metal Work, China, Bric-a-Brac.

NOTE.—Past prize winners will be awarded "Niepce," or progressive medals, *should they win a medal of the same value as that which they have been awarded in past Stereoscopic Slide Competitions.*

DATE.—All slides must be received on or before October 30th, 1891.

RULES, CONDITIONS, AND ENTRY FORMS will be forwarded on receipt of stamped addressed envelope. The application should be endorsed—

STEREOSCOPIC SLIDE COMPETITION,

EDITOR: "AMATEUR PHOTOGRAPHER,"

1, CREED LANE, LONDON, E.C.

To Correspondents.

THE insertion of **QUERIES** and **ANSWERS** is attended with much labour, and it is requested that the questions asked and the answers given shall be short and to the point. No charge is made.

All communications for these columns are to be addressed to **The Editor, "Amateur Photographer," 1, Creed Lane, Ludgate Hill, London, E.C.**

RULES.

1. Write clearly and distinctly on one side of the paper only.
2. Write each Query or Answer on a separate sheet of paper.
3. Write the name and address legibly on the back of each communication, and sign all Queries and Answers with name or *nom de plume*.
4. All matters for these columns **MUST** be received by **TUESDAY MORNING'S POST**.
5. The Editor does not undertake to answer questions by post.
6. In answering Queries, correspondents are requested to mention, in every instance, the *number and full title of the query* referred to.

QUERIES.

4814. **Liverpool.**—I am going to Liverpool for my holidays. Will any brother amateur tell me of anything in and around Liverpool for the camera (not shipping)? Any hints will oblige. —**AMATEUR.**

4815. **Ripon.**—Is there anything in Ripon and district worth taking; if so, will anyone oblige with any hints on same, as I am going there soon? —**AMATEUR.**

4816. **Rapidity.**—If I expose an Ilford 30-times plate 2 seconds, and exposure is right, what exposure should I give to an Eastman film? Are these films faster than Ilfords? —**AMATEUR.**

4817. **Quick Plates.**—Can any kind reader tell me what plates of the Britannia Works Co. will be quick enough for taking instantaneous photographs at Jersey in August or September, and tell me of a few good photographs that there are to be taken there? —**L. W.**

4818. **Camera Bellows.**—"Parisian" wants to know if there is a machine for making camera bellows, and the address of the maker. —**PARISIAN.**

4819. **Films for Hand-Camera.**—Is there any satisfactory hand-camera for exposing cut films? I find a roller comes expensive if cut often, and glass plates heavy to carry. —**ARIADNE.**

4820. **Positive.**—What is the cause of a negative, after development, appearing like a positive, more especially by reflected light? Is it due to error in exposure or development? —**MOXTE.**

4821. **Toning Bath.**—I am told that tungstate of soda bath should be perfectly neutral when used, but must be slightly acidified by a few drops of hydrochloric acid when put away to prevent the gold being precipitated, and freshly neutralised by carbonate of soda each time it is used. (1) How long will the bath keep? (2) How much carbonate of soda should be used to neutralise? (3) Is it with litmus paper I will find out whether it is neutral. Will some reader kindly help a beginner? —**J. I. H.**

4822. **Magnesium Lamp.**—I have had a magnesium lamp given to me a short time ago, but do not know how to use it. It is worked by clockwork, and carries the magnesium ribbon. Will someone please tell me how to work it, and how long to expose, etc.? —**LOPTIC.**

4823. **Ripon, Harrogate, and Leeds.**—I am going to Ripon, Harrogate, and Leeds next month, one day at each place. I shall take my half-plate Instanto (Lancaster's), using single lens and Ilford ordinary plates. Any hints what to photograph, time of day, and exposure at each place, with thanks. —**J. W. E.**

4824. **Bromide Film.**—Can any reader tell me a method of taking the film off a piece of bromide paper (which has been printed) and transferring it on to an old negative glass? I use Mawson bromide paper. —**A. Q. C.**

4825. **Hand-Camera.**—A beginner would be very much obliged if any experienced amateur could recommend a really good hand-camera to take 5 by 4 plates, with three double dark-slides, good lens, shutter for time and instantaneous exposures, and two finders. Is a focussing arrangement preferable to a fixed focus? —**NOVICE.**

4826. **Hand-Camera.**—Can any amateur kindly inform me of a firm who will supply hand-cameras on approval to intending purchasers, if a good reference is given? —**CAUTIONS.**

4827. **Switzerland.**—Will someone kindly tell me if I can, without difficulty, get my plates passed by the customs officials (going and returning), also if September is a suitable month for visit, and if both light and heavy clothing is necessary? —**S. J. B.**

ber is a suitable month for visit, and if both light and heavy clothing is necessary? —**S. J. B.**

4828. **Gloss on Prints.**—Could any reader inform me of a cheap way for putting a gloss on my photographs without burnishing? —**JOHN JACKSON.**

4829. **North Wales.**—Can any reader give me the names of either amateurs or dealers where I can obtain the use of dark-room for changing at Conway, Bangor, Camarvon, Colwyn Bay, and St. Asaph's? —**TOURIST.**

4830. **Lantern Slides.**—I have some whole-plate negatives and wish to make them into magic-lantern slides. Could any reader let me know how to go about the business? A reply will oblige. —**JOHN JACKSON.**

4831. **Focussing.**—Will some kind reader inform me on the following matter? I have a whole-plate (this extends to 22 in. when thus used) camera, all movements, and a rapid rectilinear lens, iris diaphragm? What length of bellows should be given for quarter-plate, half-plate, and whole-plate, also distances from subject for same size plates? What exposure to give out-doors, bright day, for plates 30 times, also time indoors? —**R. ROBINSON.**

4832. **Switzerland.**—Will a brother amateur tell me which is the best month for photographic tour, July or September? Also if time of exposure is similar to this country? Also if it is necessary to obtain permission to photograph churches, etc.? —**S. S. S.**

4833. **Rhyl or Colwyn Bay.**—Which of these places makes the best centre for photographic purposes, having regard to railway and steamboat facilities, scenery, etc.? Can plates be had at both the above places? —**PHOVO.**

4834. **Antwerp, Brussels, Rotterdam, etc., and thence to Normandy and Brittany.**—During August I hope to visit the above places. As my Continental experience is rather limited I shall be very grateful if some brother amateur who has covered the same ground with his camera would kindly give me the benefit of his experience. I shall probably go for a fortnight, so should I like the route made out doing the journey comfortably in the time named. I intend taking a whole-plate camera and a few dozen plates, and should be glad of any information as to whether I should have any difficulty with the customs, and also whilst photographing in the towns and country districts? I should also like to know if it would be advisable to get a passport for France before starting, the most reasonable and pleasant hotels, the amount per day, and by the week? Very many thanks in anticipation. —**FRIEZ.**

4835. **Snutter.**—Would some amateur kindly recommend me a simple but reliable snutter to fit a whole-plate lens, price about 10s. I only want it for certain things, so it does not matter about its being one that can be regulated? —**FRIEZ.**

4836. **Elkoogen.**—How can an over-exposed negative be made sufficiently dense by this developer? —**MONTE.**

4837. **Mounting Bromide Prints.**—What is the best way of mounting bromide prints so as to preserve the gloss? I find that on damping the prints, whatever is used to press them in contact with the mounts sticks to their faces and destroys the gloss. —**J. P. H.**

QUERIES UNANSWERED.

May 29.—Nos. 4711, 4723.

June 5.—Nos. 4727, 4729, 4732, 4738, 4740, 4746, 4749,

4750.

" 12.—Nos. 4767, 4769.

" 19.—No. 4779.

" 26.—Nos. 4793, 4794, 4800, 4802, 4803, 4804, 4805, 4811.

ANSWERS.

4790. **Developing.**—No, do not continue until a black coat gets as white as a white collar in negative, or you will have a too dense negative. But get a certain amount of opacity in the coat. Judge portraits, principally, by the density of the face. —**PEN.**

4791. **Pinholes on Negatives.**—Dust in the camera, or too rapid flow of the developer, or soaking the plates in water before flowing developer have often caused pinholes with me. Have you filtered the solutions? —**MOONEN.**

4791. **Pinholes on Negatives.**—Do not soak the plate before developing, and rub gently with the fingertips upon placing in the developer, and keep the dish in constant motion. Also see that there is no dust in the camera or slide. If the pinholes still appear, try another brand of plates. Cheap plates frequently come out with pinholes, presumably flaws in the film; however, they may be easily spotted out in the negative by means of Indian ink and gum water, and a fine camel's hair brush used on the film slide. —**POXTO.**

4791. **Pinholes on Negatives.**—Brush dark slides out, and plates before putting them in, as well as before developing. —**PEN.**

4791. **Pinholes on Negatives.**—"J. T. H." should brush his plates before putting them into the slides, and should also be careful to brush out his slides regularly, as dust is very apt in this weather to collect in them. —**SCOTIA.**

4795. **One-Solution Intensifier.**—This is Vogel's formula, if it is what you mean:

Nitrate uranium	1 grm.
Red prussiate of potash	1 "
Glacial acetic acid	20 "
Water	200 "

This intensifies strongly, and has the advantage that

parts only of the negative may be intensified separately by applying the solution with a brush. Negatives treated with this intensifier should only be washed for a quarter of an hour, and may be reduced by the aid of dilute ammonia. —**PEN.**

4796. **Colouring Transparencies.**—Transparencies may be coloured with transparent oil paints, sold for colouring photographs, at, I think, Reeves and Son's. Very pleasing effects may be obtained with dyes, which, of course, only give a monochromatic picture. —**POXTO.**

4796. **Colouring Transparencies.**—Much practice is required. Middleton and Brodie, of Long Acre, sell a book on the subject. —**MOONEN.**

4797. **Drink Traffic.**—There are many temperance stories illustrated by lantern slides, with readings all complete, to be had of York, Lancaster Road, Notting Hill, or they may be hired of Wood, Cheapside; Watson, Steward, or Hughes. See addresses in advertisements in the **AMATEUR PHOTOGRAPHER**. "The Bottle," eight slides, is an old subject, but a favourite one still. —**MOONEN.**

4798. **Bromide Paper.**—I have used the Ilford hydro formula with this paper and have never failed, and unless the sort of failure be more specifically described, cannot account for same. —**MOONEN.**

4798. **Bromide Paper.**—Having tried developing bromide paper with the Ilford formula of hydroquinone and also ferrous oxalate, I find the former gives fairly good results, but not so good as obtained by the latter. Thanking Mr. Ellis for his help in June 12th number. —**COPTIC.**

4798. **Bromide Paper.**—I would advise "Muwa" to try Edwards' hydroquinone developer for bromide paper work. It is made up in concentrated solutions. For use, mix equal quantities of 1 and 2, and dilute with three or four times water. For a negative of ordinary thickness, expose to the flame of a candle for about 22 secs., at a distance of one foot from the flame. I have got some very good results in this way. —**R. H. M.**

4799. **Exposure Meter.**—Watkins' exposure meter, price 15s., can be had of most dealers. The plate numbers for Ilford and most other plates will be found in the instructions sent out with the meter. —**EDINBURGH.**

4801. **New Zealand, Camera for.**—I have taken a camera all over the Australian colonies, and have never had anything amiss with it. Have a good case or bag to protect against dust and heat, keep from the damp by having it in your cabin rather than the ship's hold, and it should not warp if primarily well made. —**MOONEN.**

4801. **New Zealand, Camera for.**—Having visited Africa, Australia, and New Zealand, with a half-plate Instantograph (Lancaster's), I can say (1) Brass binding is unnecessary for New Zealand, though advantageous, provided the wood is well seasoned and that the sea does not get in. Mine was not brass-bound. (Don't expose it to the sun and rain unnecessarily, and keep a large and thick focussing cloth over it. (2) Pack them amongst your clothes. I did with success. There is no necessity for oiled paper or a tin box in a journey to New Zealand by the Shaw, Savill, or New Zealand Shipping Co. route, bar extra accidents. For a tip see answer to 4808. The double twill bag is just the thing. Let me advise the purchase of dark slide protectors. —**QUIS.**

4807. **Norway.**—If you propose to photograph from steamers in motion, rapid plates may be desirable; otherwise ordinary, as the light is more actinic than in England. Films are useful, as heavy luggage is troublesome in Norway, and there is great difficulty in changing, so as many slides as possible should be taken. A long-focus lens is desirable, as frequently views can only be taken from a distance. —**MELCHIOR.**

4807. **Norway.**—If you intend doing the trip by steamer you would require rapid plates, as most of your views would be taken from the deck during motion. —**POXTO.**

4808. **Changing Bag.**—Try the Eclipse changing bag, made by Beresford, of Nottingham, advertised in these pages. The price for whole-plate is 10s. —**POXTO.**

4808. **Changing Bag.**—After an experience in the tropics, I may say that the most useful bag—one actually used in Africa and Australia—is a double bag long enough to go over head and shoulders and leave some space for elbow room, made double, the outside black twill, the inside Turkey-red twill, a cord to draw it tight. Have the stitching made down the upper side in one bag and the under in the other, so as not to correspond. Before starting out, place all your plates facing the same way, and it is prudent to add a slip of stamp selvage on the non-sensitive side so as to protect (if the latter is done, the former precaution may be dispensed with). After exposing the plate, tear off the projecting portion and put the number in pencil on the remainder. Replace in the ordinary paper packing and the bag. By this means I have exposed two dozen plates with one double bag. I am trying canary and brown twill, which gives more light and I think is safe. I had an Ilford ordinary plate in it for three minutes in sunlight. Of course, the operator will take advantage of any available shade. It gets rather hot inside; ventilators could be added. The bag can be used as a focussing cloth. —**QUIS.**

4809. **Wheeler's Exposure Tables.**—You will find a list of the rapidity of all the plates in the market in Wormwald's "Index of Photographic Exposure," price 1s. 6d. Ilford rapid are 60 times, extra rapid 80 times, and Edwards' isochromatic 50 times. —**GADLYS.**

4810. **Fogged Plate.**—Plates have fogged with me before but not during fixing on allowing light to get to them. I always fix out of the dark-room, and never have had a plate fogged through doing so, although I know it is contrary to rule, as all manuals recommend fixing in the dark-room.—MOONEN.

4812. **Rotterdam and The Hague.**—The hand-camera is the most convenient unless large views are required. The exposure is not, as a rule, quicker than here; slightly the contrary. Dutch skies are proverbially less bright. This, at least, is my experience.—MOONEN.

EDITORIAL.

SPECIAL NOTICE.—We are very pleased to find that replies in this column are so much appreciated, but we should be very grateful if those requiring advice would send their letters to us BEFORE TUESDAY MORNING'S post if possible. The time occupied in replying in this column is very considerable, and owing to the often late receipt of letters, many matters have to be left over each week. This we much regret.—ED: AM: PHOT:

MOONEN.—Many thanks for your letter re "Semi-Professional," and the answers, etc., so kindly contributed.

NAIRY.—Your very uncourteous acknowledgement of our letter duly received. We are obliged to make rules, and have treated you in no exceptional manner. We cannot buy plates or goods for our subscribers, hence your cheque was returned.

E. S. K.—We cannot advise you to take the camera you name. You will find the Talmer answer your purpose; it holds twelve plates, and is a very serviceable apparatus. A more expensive and thoroughly reliable hand-camera is Swinden and Earp's.

H. HOLZ.—We have our rules, and one is never to, knowingly, pass an opinion upon any photograph which is to be entered for our competitions.

CAB. PHOTO.—(1) Hyposulphite of soda 7lbs., oxalate of potash 1 lb., sulphate of iron 1 lb., bromide of potash 4 oz., acetic acid half a pint. The above for bromide. For platino-type, oxalate of potash 1 lb., oxalate acid 1 oz., hydrochloric acid $\frac{1}{2}$ lb. (2) The touring case would be too heavy; much better strap your legs on the outside, making the straps of the case do duty for both.

J. E. F.—The plates you name are quick enough for instantaneous pictures in a good light. But why not use Fry's Kingston special or Paget's xxxxx, both good plates? For instantaneous use $f/8$ or $f/11$ with the lens you have; certainly not any smaller stop. No plate would give you a good instantaneous picture if the lens were stopped down to $f/30$.

H. WALKER.—Very many thanks; if you could send us a clearer map we would have it blocked for your contribution.

L. F. BELL.—We should use the films with the cardboard in an ordinary dark slide. You will be safe in using any of the films named, and should have no difficulty with them. To your second question we answer yes.

PUKEN.—Any articles suitable for "Holiday Resorts and Photographic Haunts" will be most acceptable, especially in the north of Scotland. Certainly send us No. 4 again.

E. W. HOUGHTON.—We know nothing of the camera, but have no doubt that it has been sold.

PAY.—Your letter and "copy" have evidently been mislaid, but we will try and look them up.

A. L. CACHEMAILLE.—The "Public Schools" photographs will not be criticised in the *Photographic Reporter*. They are at the disposal of any public school, and will be sent on receipt of packing fee, the carriage to be paid both ways.

ACORN.—We have written you by post.

R. R. L.—Obenetter paper. J. R. Gotz, 19, Buckingham Street, Strand, W.C. Possibly the picture has gone through.

COMO.—(1) Edward's glycerine developer will suit your purpose:

Pyro	1.	1. oz.
Glycerine	..	.. 1. "
Methylated spirit, to	..	.. 3. "
Citric acid	..	.. 9. "
10 per cent. solution of pyro.	..	.. 30 gr.

Bromide of potas.	2.	200 gr.
Strong ammonia '880	..	1 oz.
Distilled water, to	..	10 "
10 per cent. solution of ammonia.	..	..

Add one part of each to fifteen parts of water, and mix the diluted solutions in equal parts. (2) Certainly, try of the maker. Thornton-Pickard, Underwood, Lancaster all have good and reliable shutters. (3) To prevent hypo stains on prints is merely a matter of cleanliness. Wash your prints, tone them, and when the right shade put into salt and water. When all toning is finished, put away your toning bath and dishes, then touch the hypo for the first time. (4) Wall's "Dictionary of Photography" would give you every information. We shall be pleased to see your prints.

ST. BERNARD.—If you received any cash in exchange as well as the Casket you did not do so badly. (1) We should have rather put the figures nearer the centre and cut away the upright tennis post in the middle.

The plate was correctly exposed and well developed. (2) Well-exposed and developed, and it would be a picture had you posed a couple of urchins instead of condemning the cloth to the derogatory pastime of bird's-nesting. (3) Over-exposed; you have lost all the sunshine; a pretty little bit. (4) Over-exposed and it would be improved by the absence of the obtrusive twig in the foreground: we prefer No. 5. You are using too small an aperture for landscape; $f/22$ is quite small enough and would give you more brilliant results. (6) If your sitter had just let the book drop into her lap and raised her head and looked out of the window, you would have got a better picture; the exposure was right, but the print might be a little more deeply printed. We are always pleased to help you or any reader. Your work shows fair promise, and a little more care and cleanliness in printing would improve matters. We should advise you to use a more thickly coated plate, so as to avoid the halation so apparent in your prints. Do you want your prints back? If so, send on stamp.

W. C.—We should advise you to get one of Hockin's Desideratum R.R. lenses.

HALF-PLATE.—No. 1 we do not know, but No. 2 is a very good instrument.

RINO.—The metallic deposit is iridescent or green fog. Some plates are very liable to it. Increase of bromide and decrease of ammonia will help you. When it exists immerse the plate in:

Ferric chloride	..	.. 50 gr.
Potassium bromide	..	.. 30 "
Distilled water	..	.. 4 oz.

Soak the plate in this for a minute or two, wash well, and redevelop with a ferrous oxalate developer; reflex and wash. It does no harm to the keeping quality of the negative, but is prejudicial to printing sometimes.

BLANCHE.—Is not your paper very old? It gives us that impression. Impure sulphite might cause it. Are you using potassium or ammonium bromide as a restrainer? The negative is well exposed and well developed and is a well chosen view. Let us hear from you again.

H. S. W.—The negative of the men is under-exposed. The other looks as though fogged by light. What developer are you using? We certainly like the idea of Loman's Reflex, and the focussing is a great advantage. We will write you privately if you send us stamped envelope and let us know what figure you will run to.

TIGER.—You ask a good deal. Dewey's Gem drop shutter is a good one, or Underwood's or Thornton-Pickard's blind shutter would suit you.

J. HIGGINBOTHAM.—Your negative is most fearfully over-developed.

H. S. MCCORQUODALE.—You put the cart before the horse. The usual way is to wash and then varnish, not vice-versa as you have done. The cracking of the varnish was inevitable. It can be removed by methylated spirit or benzole.

W. L. H.—The angle included by a $\frac{4}{5}$ in. lens will be 52 degrees. This is about right, though we should prefer a 5 or $\frac{5}{8}$ in. Still, for general work, the $\frac{4}{5}$ in. is a convenient focal length.

S. CATOR.—(1) We prefer *b*. (2) *a* lenses are not to be beaten for quality and are superior to *b* and *c*.

PRESTON.—(1) Flat and poor. (2) You have just missed a picture; now it is merely a group. Your prints are badly trimmed and mounted, and are by no means clean.

E. W. MALE.—(1) Very fair; the water is too white. (2) Half an inch off the right and an inch off foreground will improve this. (3) Good. (4) Insufficiently toned. (5) Good. (6) Good. It strikes us your lens is of too short a focus; the perspective of your views is queer. Your chloride prints are all insufficiently toned. We prefer matt-surface prints. By all means try your luck in our competitions.

W. T. BARTON.—(1) We do not think you can better your present hand-camera, taking everything into consideration. (2) The plates you mention are quite suitable for all-round work and cannot be beaten.

HENRY LOMAS.—Watson and Son, High Holborn, or Marion, Soho Square, would probably supply you, but the price we do not know.

G. BARRAIN.—Thank you for the hint. The only objection to the use of plain shellac varnish is that it is liable with a lot of work to chip and rub up. When not much used it is quite safe, and if you have found it so satisfactory we shall advise you to stick to it. We should strongly advise you to keep to the xxxxx plates if you could work these well, and you could use $f/16$ with certainty of good results then.

T. A. C.—You might try Ross' New Universal symmetrical lens. We think this would answer your requirements, though we are surprised to hear the result of your trials of the lenses named. We should place 7, 3, 1, 2, 4, 5, 6.

ANXIOUS.—The spots are not your fault, but are due to dust settling on the film of emulsion before it was quite set. Your only plan is to spot them out with Indian ink and carmine mixed.

HYPO.—We certainly prefer No. 1, and have never known it to tear prints.

A. H. PAYNE.—(1) Print fearfully over-exposed. (2) Ditto. (3) Very fair. (4) Insufficiently printed. (5) Very fair. (6) Poor. You hardly pay enough attention to your foregrounds, which are far too bare and uninteresting. Your prints give us the idea of weak hydroquinone-developed negatives.

Sale and Exchange.

RULES.

CHARGE. Twelve words or less for Fourpence. Every additional three words, one penny. The name and address of the sender must be paid for. (A single figure, or group of figures undivided by letter, space, stop, or words, counts as one word; compound words count as two words.)

PAYMENTS should be made in Postal Orders or Postage Stamps.

ADDRESSES.—All advertisements (which can be received up to Wednesday morning, 9.0 a.m.) and other communications having reference to the "Sale and Exchange" column, must be addressed "Sale and Exchange, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C."

DEPOSITS.—The money for goods forwarded on approval may be deposited with the Publishers of the AMATEUR PHOTOGRAPHER, who will hold the amounts deposited until they are satisfied that the transaction has been completed to the satisfaction of buyer and seller.

COMMISSION.—A charge of 2½ per cent. will be deducted from all deposits whether a sale is effected or not.

PAYMENT.—All payments are to be by cheques or Postal Orders, made payable to Hazell, Watson, and Viney, Ltd., 1, Creed Lane, London, E.C.

REPORTING.—Apparatus may be sent to the EDITOR, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C., who will report upon the apparatus to the buyer for a minimum fee of 2s. 6d., or a commission of 2½ per cent., upon the sale price of the apparatus.

CARRIAGE must be paid on all apparatus sent for report, and they will be returned carriage forward.

ADVERTISEMENTS can be inserted under a number, the name and address being registered, and letters forwarded for a fee of 3d. to cover postage.

Bicycle.—Safety bicycle, cushion tyres; £7 10s.; balls everywhere; just cost £14 from makers; unusual bargain.—No. 179, AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.

Cameras, etc.—Lancaster's 1889 quarter-plate Instantograph, three double backs, lock-up leather case, half-plate E.P. stand, all complete; £9 10s., or offers.—G. H., 17, Streatham Hill, S.W.

Underwood's half-plate Tourograph camera, slide, and stand; 25s.—Tully, Chemist, Hastings.

Cameras, Lenses, etc.—Half-plate Merveilleux camera, one double back, lens, and stand; price 20s.; or exchange for studio stand.—W. Moore, 6, Fenton Place W., Lincoln.

Hand-Cameras, etc.—Stereoscopic Co.'s Compactum hand-camera, nearly new, carries 12 quarter-plates, fitted with 5 by 4 rapid Euryscope lens; cost £10 10s.; sell £6 10s.—J. Robinson, 7, Northgate, Darlington.

Best and smallest hand-camera, Platinotype Co.'s quarter-plate Key, adjustable focus, adjustable shutter, 10 double backs, finder, all in good condition; cost £8 15s.; price £4 10s.—Box 43, St. Helens, Lancashire.

Hand-camera, holding six plates or films, pneumatic time and instantaneous shutter, finder, and good single lens, equal to new, 21s.; also very rigid half tripod, for 6s. 6d.; no approval.—Butterworth, Parkhurst, Buxton.

Guinea hand-camera, three double dark-slides, and finder, takes excellent negatives, can show many; 12s. 6d.—A. Reingbach, Langham Hotel, Portland Place W.

Samuels' detective camera, 15s.; Decoudun's photometer, Stanley's actinometer, in leather case, 7s. 6d.—F. Sheaff, High Street, Dover.

Hand-camera, takes 12 quarter-plates, adjustable speed shutter, two finders, iris diaphragms, working $f/8$, adjustable focus, covered morocco leather, new, perfect; 50s.—K., 103, Grafton Street, Mile End.

Quarter-plate Luzo, lightest and best hand-camera, cost £7 15s., price £6 6s.; walking-stick tripod for same, cost 25s., price 15s.—Miss Payne Galloway, Thirkley Park, Thirsk.

Quarter-plate hand-camera, to take 12 plates, finder, covered Russian leather; bargain, 27s. 6d.—14, George Street, Stroud.

Lantern.—Hughes' £4 4s. Pamphengos lantern, condenser slightly chipped at edge, does not affect disc; a bargain for 25s.—no approval.—Hodges, 46, Fairlawn Grove, Chiswick.

Biurnal lantern, brass fronts, 4 in. condensers, portrait lenses, safety lens, dissolver, gas bag, etc.; cost £21; price £12, or offers.—Lantern, Heyside, Ruyton.

Lantern Slides.—80 lantern slides, photographs; first P.O. 7s. 6d., clear; big assortment views and statesman, as new.—Sawyer, Sydenham Terrace, North End, Portsmouth.

Lenses, etc.—10 by 8 R.R., 10 by 8 W.A.R., half-plate R.R., £2 10s., £2, £1; French; approval; deposit.—Fowler, Estate Office, East Street Buildings, Manchester Square W.

No. 5 Dallmeyer wide-angle landscape patent, with rotating stops; new, unused, list price £8 10s., take £4 5s.; Ross' rapid rectilinear, 5 by 4, 55s.; quarter-plate portrait lens, 10s.; approval with measure.—187, High Street, Camden Town, London, N.W.

Euryscope quarter-plate lens, *f*/6, Waterhouse stops, as new, splendid lens for detective camera, cheap, 20s.; half-plate rapid rectilinear, $\frac{7}{8}$ in. focus, 22s.; approval; deposit. — A. Young, 17, The Grove, Crouch End.

5 by 4 rapid rectilinear, *f*/6, Waterhouse stops, new, 17s.; also half-plate rapid rectilinear, first-class, good as new, 20s.—196, Park Road, Crouch End.

Bargain, Darlot half-plate R.R. lens, with Kershaw shutter to fit, in good condition, a splendid lens for instantaneous work, groups, landscapes, etc.; cost £4 18s.; will take £3.—Overstall, St. Ann's Heath, Virginia Water.

Half-plate R.R. lens, with stops; 15s.; cost 40s.; or exchange for half-plate camera bag. — W. Fawcett, 3, Sunny Bank, Leeds, Yorks.

Cabinet portrait lens, four stops, nearly new, take 21s.; c.d.v. portrait lens, take 7s. 6d.; both rackwork focussing; would exchange for good hand-camera; approval.—F. Noakes, Peterborough.

Optimus 7 by 5 rapid rectilinear lenses, nearly new; 40s.; no cards.—Ralston, Pennington, Manchester.

Whole-plate rapid rectilinear lens, 11 in. focus, with stops (by Dale, Ludgate Hill); 30s.—Arthur F. Smith, 10, Watling Street, London, E.C.

Optimus Euryscope, 9 by 7, a splendid instrument, perfect, as new; exchange for 3B portrait, Optimus or Burr's preferred.—Hare, Photographer, Sutton, Surrey.

Roll-Holder.—Morgan and Kidd's half-plate roll-holder, perfect condition; cost 50s.; great bargain, 20s.—Toulmin, 3, Westbourne Villas, Acton.

Negatives.—Amateurs!!! Six high-class professional's (deceased) negatives, showing density, retouching, etc., assorted, unequalled aids; post free 1s. 3d.—Richford, Wells, Norfolk.

Sets.—Half-plate camera, all movements, three backs, sliding stand, stiff baize-lined case, Optimus R.R. lens, W.A. rectilinear and single landscape, Kershaw's and Reynolds' Phoenix shutters, all good condition; £10; approval.—L. Cator, 2, College Grounds, Malvern.

8 by 5 bellows-body camera, swing-back, lens in rackwork, tripod, three double dark-slides; 28s. the lot; no approval; photograph sent. — Fredk. Sharpe, Oakham.

Morley's best half-plate camera, three backs, Ross' 8 by 5 R.R. and 8 by 5 $\frac{1}{2}$ W.A. actinic doublet, Ashford's largest tripod, Marion's miniature camera and lens, and 30 other items, total cost £28 8s., good as new; sacrifice £14; going abroad. — Field, 81, Ossulston Street, N.W.

For sale, mahogany detective quarter-plate camera, six double backs, focussing screen and two finders, rapid Euryscope lens, with iris diaphragm and canvas case for backs (by Perken, Son, and Rayment), used only once, cost £10 fortnight ago, price £7; also Swinden and Earp's hand-camera, to carry 20 quarter-plates, without lens, very little used, cost £6 5s., price £4 10s.—Townsend, The Hollies, Berkswell.

Lancaster's 1891 half-plate instantograph camera, slide, tripod, R.R. lens; bargain, 69s.—2, Hawthorn Villas, Slad Road, Stroud.

Whole-plate long-extension camera, three double backs, biggest hand-make and finish, all improvements up to date, weight camera just over 5 lb., yet very strong and solid, tripod stand, carriers down to lantern plate, Ross' symmetrical lens, 9 by 7, 12 in. focus, reducing and enlarging board down to lantern plate, up to any size, dark-room lamp, especially made for gas, six printing frames, dishes, etc., all new last year, will guarantee the condition perfect; take £16 for the lot.—Alpha, 10, Fairfield Road, Manningham, Bradford, Yorks.

Full-plate set for sale, excellent condition, best make throughout.—Executor, Florence Villa, Portswood, Southampton.

New half-plate long-extension camera, three double backs, highest class, cost 137s. 6d.; Leviathan rapid rectilinear lens, cost 60s.; 4-fold stand, cost 20s.; price, complete, 150s.; no exchange.—No. 178, AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.

Chapman's quarter-plate camera (old pattern), with swing-back and rising front, and three double dark-slides, McKellen's quarter R.R. lens, Hockin's quarter W.A. lens (new last autumn), portrait lens, quarter (by Franks), and Phantom shutter to fit R.R., all in splendid condition; the lot for £6 10s., or offers; approval; deposit.—F. Betley, Swinley Road, Wigan.

Fallowfield's R.R. Facile lens and shutter, never been used, one dozen quarter-plate sheaths, £2; splendid iron-body lantern, 3-wick lamp, 4 in. condenser, portrait combination lens, slide, carrier, packed in box complete, 30s.—Chappell, 12, Anhalt Road, Battersea.

5 by 4 leather bellows camera, Dallmeyer R.R. lens, one single and three double slides (Tylar), price £5; also French portrait lens to fit above, 15s. — P., 44, Sinclair Road, Kensington.

7 $\frac{1}{2}$ by 5 Rouch's camera, every movement, including slide-swing, four double backs, tripod, R.R. lens, Waterhouse stops; bargain, £6 10s.—Bush, Somerville, Wells Road, Bath.

Lancaster's quarter International camera, lens, shutter, slide, and stand, also changing bag; approval; deposit with pleasure; 47s. 6d.—J. Thomas, 1, Grugos Terrace, Port Talbot.

Quarter-plate Le Meritoire set, two double backs; what cash offers? — F. Goodman, 8, Barnsbury Park, London, N.

Whole-plate Underwood's Convention camera, double slide, tripod, camera case, no lens; £4.—W., 30, Nutfield Road, East Dulwich, London.

Bildlife whole-plate, three double slides, Optimus R.R. lens, 3-fold tripod, Kershaw shutter, complete in waterproof travelling case; £12 cash; on approval.—R. Evans, Cromac Works, Belfast.

Lancaster's half-plate instantograph, tripod, lens, dark-slide, £2 10s.; Grandfather's clock, oak case, perfect order, £3, or exchange. — Camera, Heyside, Rye-ton.

10 by 8 Exhibition camera (by Sands and Hunter), with four double slides, patent instantaneous shutter, two best leather cases, tripod stand, all in first-class condition; price £11 10s. — H. A. C., care of Watson and Sons, 313, High Holborn.

Lancaster's whole-plate extra-special camera, one double slide, fitted with Eastman's roll-holder, £5, or sell separately; Taylor and Hobson's whole-plate landscape lens, iris diaphragm, 12 in. focus, £2; Taylor and Hobson's whole-plate wide-angle rectilinear, wheel diaphragm, £2 5s.; strong case to hold the above appliances, with lock, 15s.; Ashford 2-fold tripod stand, 8 in. top, and waterproof case, 15s.; camera and three dark-slides, to take half-plate or $\frac{6}{8}$ by 4 $\frac{1}{2}$, price £1; 3-fold tripod stand for half or whole plate camera, 10s.; also plate-rocker, focussing magnifier, focussing cloth, whole-plate printing frames, and developing dishes; no reasonable offer refused; approval on deposit with Editor.—Address, 10, Harewood Square, London, N.W. — Will exchange complete half-plate outfit, also plates, chemicals, printing frames, Vevers' flash lamp, and British American organette with several tunes, for Swinden and Earp's 5 by 4 prize medal hand-camera, or any other good make, or the outfit alone for quarter-plate size. — W. Harrison, 51, Regent Street, Blackburn.

Whole-plate camera, all movements, three double slides, Wray's R.R. lens, Beck's No. 5 combination lens, Thornton-Pickard time shutter, sliding ash tripod, canvas and leather-bound cases; £13 10s. — G. Constable, Market Street, Lewes.

Half-plate camera (Brown's patent combination), three backs, case, Ross' rapid portrait and portable

symmetrical lenses, Thornton-Pickard shutter, tripod, and every accessory for complete outfit, perfectly new, and very compact; £14, or offers.—Casson, 22, Addison Road, Chiswick.

Bundles.—5 quires albumenised paper; 13s.; deposit.—Wm. Goddard, Windlesham, Surrey.

India-rubber type, 200 pieces, capital and small, letters and figures, with bolder, tweezers, and pad, invaluable for naming negatives; 10s.—Oxford, Castle Grounds, Devises.

AMATEUR PHOTOGRAPHER, from January, 1887, to December, 1890, those of 1887 and 1888 are bound in four volumes, and contain Wall's "Dictionary;" also "Photographic Art Journal," from July, 1889, to December, 1890; the lot clean and undamaged; price 10s.—Thos. Burnell, Bradmore College, Chiswick, W.

Will exchange good turning lathe, 5 ft. 6 in., bed 5 in. centre, and accessories, for $\frac{8}{16}$ by $\frac{6}{8}$ bellows camera, stand, and double backs. — Harris, Dicks, Bridport, Dorset.

Quantity of whole and half plate accessories for developing and printing, also Marion's cabinet burnisher; the lot 30s.; great bargain.—Sydney Miller, 23, Highbury Grove, London, N.

One Decoudun's photometer; 3s. 6d.; cost 10s.—A. Reingach, Langham Hotel, Portland Place, W.

One Lancaster's cycle clip, quite new; 3s.; cost 7s. 6d.—A. Reingach, Langham Hotel, Portland Place, W.

New ebonite dishes, $\frac{4}{8}$ by $\frac{5}{8}$, at 6d. each; 8 by 6, 9d.; 9 by 7, 10d.; 11 by 9, 1s. 4d.; 12 by 11, 1s. 10d., or exchange.—J. O. Grant, 63, Finsbury Pavement, E.C.

Shutter.—Lancaster's best See-saw shutter (Euc-natic), will give 1-100th sec., bought a month ago, 6s. 6d.; mahogany stand, very rigid, quarter size, 4s.—E. McCulloch, Monkton Cottage, near Musselburgh, N.B.

Tripod.—Ashford tripod, 2-fold, 8 in. head, good as new; 15s.—Arthur F. Smith, 10, Watling Street, E.C.

WANTED.

Cameras, etc.—Quarter-plate camera, good, two or three double slides; no lens; lowest price.—W. Middleton, 20, Rectory Road, Stoke Newington, N.

Lancaster's half-plate instantograph or Underwood's half-plate camera, complete, etc.—Naylor, 77, Cadogan Square, S.W.

Chadwick's half-plate stereoscopic camera, cash, or exchange Lancaster's International — No. 180, AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.

Cameras, Lenses, etc.—Half-plate camera and lens, English make, complete, on approval, cheap; reference.—John M. O'Dwyer, Golden, Tipperary.

Dark Slides.—Three or more dark-slides, 5 by 4, cheap.—Measurements and price to E. Smith, 28, Burford Road, Nottingham.

Lenses, etc.—A Ross or Dallmeyer wide-angle lens, a Kodak No. 4 Junior, or Swinden and Earp's 5 by 4 camera.—No. 176, AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.

First-class rapid doublet lens, Wray, Dallmeyer, or Ross, with iris diaphragm preferred, to cover half-plate.—Liddle, Linfield, Bury, Lancashire.

Negatives.—To photographers. Wanted to purchase, bright, original negatives of views of the most striking features of the principal cities, including all fashionable resorts, watering places, and cathedral cities in the United Kingdom, most suitable sizes, 7 by 5 and 5 by 4.—State price and particulars to No. 177, AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.

Sets.—Lancaster's half International set, complete, without lens, cheap; cash. — Pridden, Jeweller, Weymouth.

Sundries.—Enlarging apparatus, also stereoscopic camera.—L. Johnson, Customs, Barrow-in-Furness.

Views.—Views, Cornwall; would purchase negatives (worth cost) if suitable.—Bullmore, Newquay, Cornwall.

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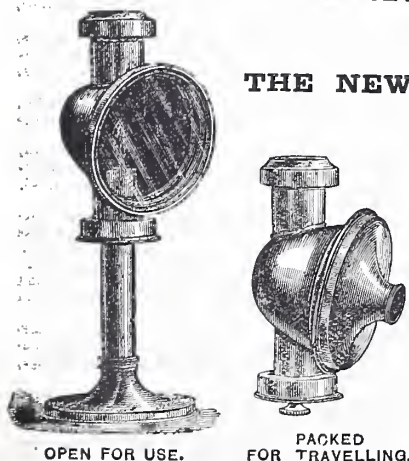
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No. 353. Vol. XIV.]

FRIDAY, JULY 10, 1891.

[PRICE TWOPENCE.]

OUR VIEWS.

"To hold as 'twere the mirror up to nature."—Shakespeare.

Members of the Editing staff are "At Home" on Monday afternoons from Two till Five o'clock, and they will gladly give advice upon all photographic matters.

OUR VIEWS.—The Convention Meeting at Bath—AMATEUR PHOTOGRAPHER Monthly Competition: Out of Door Figures, Groups, etc., Awards—The Result of the "Quarterly Examinations"—The Prize Pictures of the Amateur Photographic Association—The Affiliation of Photographic Societies with the Photographic Society of Great Britain.

LEADER.—Resinized Paper.

ILLUSTRATION.—Schutt Island, Nuremberg, by F. de Paula.

LETTERS.—The Vienna Exhibition (Exhibitor)—Action of Light on the Sensitised Surface (T. G.)

COMMUNICATED ARTICLES.—Photographic Procedure (Wall)—Studies in Art for Photographers (Lambert).

CONVENTION.—Address by the President, Wm. Bedford.

HOLIDAY RESORTS AND PHOTOGRAPHIC HAUNTS.—Bodmin—Winchester.

OUR CONTEMPORARIES.

EXHIBITIONS.—Amateur Photographic Association.

REVIEWS.—Colloquial German for Travellers

QUARTERLY EXAMINATIONS.

SOCIETIES' MEETINGS.—Cambridge—Croydon Micro.—Eas' London Faversham—Glenalmond—Halifax Camera Club—Herefordshire—Holborn—Lewisham—Putney—Southport—Southsea—Sydenham—Tunbridge Wells—The Photographic Society.

On Monday the sixth annual meeting of the members of the Photographic Convention of the United Kingdom was inaugurated at Bath. The Mayor (Alderman Jerom Murch) received the members and their friends at the Guildhall, and he was supported by several influential citizens of Bath. The attendance was not large, due partly, no doubt, to the very early hour fixed for the reception, 6 30 p.m., but if the attendance was small it was enthusiastic, and the Council have every reason to be satisfied with the recognition given to the Convention by the first magistrate of the city. Mr. Austin King (Vice-President of the Bath Photographic Society), introduced the Convention, and in a very carefully delivered speech set out the objects of the meeting, and alluded to the general work done by the Convention, particularly referring to the work being done in connection with the photographic survey of Warwickshire, which it will be remembered is an outcome of the efforts of a prominent member of the Convention, Mr. W. Jerome Harrison, F.G.S. He expressed a hope that the day was not far distant when a photographic survey of their ancient city and the fair county of Somerset might be attempted. Mr. King also briefly explained that the Convention had come to Bath in order that they might make themselves acquainted with the beautiful scenery around the city, and the many places of interest in the neighbourhood. He said that photography had assisted greatly the progress of science, and that it was an art which could make every science better known. The Mayor gave the members a hearty welcome. He said that

he was old enough to remember when photography was introduced into this country, and could call to mind the first dawning of the light on their beautiful science. He could remember, too, the gradual progress of that science, and he could not fail, therefore, to welcome most cordially those who were associated with the promotion of the objects of photography. He did not know until that evening what the particular objects they had in view were, but he had always thought that when science, united with the light of Heaven and with human skill—two of the most subtle and far-reaching powers of the universe—it was very difficult to say what could be done.

Mr. C. H. Bothamley, F.I.C., F.C.S. (the retiring President), then in an able speech thanked the Mayor for the very cordial welcome he had accorded to the Convention. He said there was no city more closely associated with the early history of photography than Bath. All photographers and all scientific men revered the names of Fox-Talbot and Herschel, the one representing the earliest photographic printing process of any value, and the other for his investigations in chemistry as applied to photography. Mr. Wm. Bedford, the President, delivered his address, which we give in another column. We may mention that he stated as a preface that he was the first professional photographer who had presided over the Convention, and it would be his duty as well as his pleasure to closely watch their interests during his year of office. The other speakers were Messrs. W. Pumphrey (President of the Bath Photographic Society), J. J. Briginshaw (Hon. Secretary to the Convention), Andrew Pringle, and Mr. E. J. Appleby (Hon. Local Secretary). At the conclusion of the speeches some photographic slides were passed through the optical lantern, and so ended the first day of the Convention meeting.

The remainder of the programme, given in our last issue will be carried out this week. The first day's excursion, Chepstow and Tintern, was largely attended, but owing to the heavy rain and boisterous weather, little photographic work could be accomplished.

Hand-cameras of almost every make will be in use during the week, from Frank's "Presto" and Griffith's "Guinea" to more elaborate and beautiful instruments, such as the "Key," "Radial," "Crouch's," "Ross's," "Kodak's," "Facile," "Eclipse," "Vanneck," "Reflex," and the latest, Fallowfield's "Miall" Hand-camera, with which Mr. Hindley will operate during the week; to all outward appearance this camera is a small hand-bag, made with great care, and has the distinct advantage of an arrangement by which any number of "store boxes," containing twelve plates

each, may be adjusted. We shall hope to have the opportunity of giving a detailed notice of the camera, and possibly a reproduction of one of Mr. Hindley's "Convention" pictures.

The show of apparatus is not large, Messrs. Watson and Sons having by far the best exhibit, their cameras, as usual, claiming much attention. The specimens of Diazotype positive printing were closely examined by the visitors. The other well-known firms exhibiting were Messrs. Steward and Sons, Newton and Sons, G. Baker, Shew and Sons, the Platinotype Co., Ross and Co. The local firms were Mr. H. J. Walker, who showed Fallowfield's and Lancaster's goods; Mr. Yabsley, with Taylor's lenses, Griffith's cameras, and special goods of his own manufacture; and Mr. Cloakloy, new printing frames, of which we shall have more to say later on. Mr. G. Baker, of High Holborn, showed a case of Zeiss's lenses, made of Jena glass, and put on the market under the names of the "Achromat," "Anastigmat." Dr. Acworth has lent several specimens of flashlight apparatus, spectra of the magnesium flashlight, and a very beautiful example of enamelling by a new process, by Professor C. C. Schirm. Altogether, the exhibition, though small, is interesting. We noted with pleasure that the editors of all the weekly photographic journals were present. We are sure that the Council of the Convention have the hearty co-operation of the press, and we only hope that those interested in photography will support the Convention by becoming members, and so make it possible for the Council to widen their field of action. Much interest is centred in the report of the Lens Standard Committee, to which we shall hope to refer next week.

—+36+—

THERE were upwards of sixty photographs contributed to the AMATEUR PHOTOGRAPHER Monthly Competition, No. 26, "Out of Door Figures, Groups, etc." The average standard of the work sent in was very good, some of the competitors showing considerable taste and skill in their arrangement.

First Prize (Silver Medal).

JOHN W. EADIE Airdrie.

This picture, entitled "The Lame Souter," is a fine sepia platinotype print of an old cobbler standing at the door of his cottage. The pose and lighting are excellent. The negative was taken with a three seconds' exposure, the stop used being $f/32$.

Second Prize (Bronze Medal).

ALF. H. FARMER Melbourne.

The print is a photograph of the competitor's sister-in-law and her little son. The grouping is admirable, and the whole of the work reflects great credit on the competitor. The negative was taken in a backyard on January 25th this year.

Other pictures deserving of special notice are contributed by Major J. D. Lysaght, "Pitch Boilers;" Chatterton Fuller, "Kafir Woman and Child;" Claire Vaughan Davies, "Jolly Companions;" A. W. Ward, "Make Me a Whip, Daddy;" Arthur J. Golding, "An Interesting Argument;" Louis J. Steele, "Village Life in the Pyrenees."

The above-mentioned pictures will be reproduced in the next issue of the *Photographic Reporter*, and the whole of the pictures contributed to the competition criticised.

—+36+—

THE examiners have handed us their report as to the result of the second "Quarterly Examination in Photography," in which we find (1) Mr. JAMES STEIN (West Kensington), 382 marks; (2) Rev. R. C. MACLEOD (Haywards Heath), 371

marks; (3) Mr. E. W. MALE (Soham), 315 marks. And we shall award the same prizes as last quarter, namely, photographic materials to the value of two guineas for the first, photographic materials to the value of one guinea for the second, and to the value of half a guinea for the third. The examiners' report shows that the other competitors were rather spasmodic in answering, particularly as the fine weather came on, and this has induced us to discontinue the questions till the last quarter in the year. We shall be glad if the above-named winners will kindly forward us a statement as to their requirements, when we will duly forward the same to them.

—+36+—

WE have much pleasure in giving a list of the prize-winners in the Amateur Photographic Association competition. The prize pictures vary much in quality, but one or two of them are very fine, notably one of an interior at Fontainebleau. The following is the list:—Silver goblet, Mr. A. R. Dresser, for pictures Nos. 1, 3, 5, 8, 11, 12; silver goblet, Viscount di Condeixa, 2, 4, 5, 6; silver goblet, Mr. F. G. Smart, 27, 30, 31; large album, Mr. R. O. Milne, 7; portrait album, Mr. R. Sevonthorpe, 207; framed oil painting, Mr. H. L. Hutchinson, 2, 11, 13; picture in frame, Mr. W. Gad-dum, 61, 130, 162; large silver medal, Surgeon-Major Foster, 2, 6; portrait album, Miss Mahon; portrait album, Dr. Drew; medal, Mr. F. Griffith, 3; portrait album, Mr. R. Murray, 273; medal, Mr. Dumergne, 7.

—+36+—

WE have received from the hon. secretary of the Photographic Society of Great Britain a circular letter upon the scheme of affiliation for all photographic societies to promote co-operation with one another and with the parent society for the advancement of photography, and for the promotion of mutual interests. The following desirable objects of attainment may be enumerated:—

1. Assisting Societies in obtaining and interchanging lecturers, papers, lantern slides, examples of good work, etc.
2. Facilitating the holding of Local Exhibitions.
3. Arranging for the provision and exchange of Dark Rooms for the use of members in local centres.
4. Extending the applications of photography to industrial purposes, and in such directions as local surveys, photographing and preserving photographs of ancient buildings, and architectural and archaeological records.
5. Assisting scientific research in photography and kindred sciences.
6. Assisting the Photographic Society of Great Britain in its endeavour to promote photographic technical education.
7. Co-operating with the Photographic Society of Great Britain in securing a universal adoption of Photographic Standards for lenses, screws, size of plates, formulae, etc.

The Photographic Society offers to the members of the affiliated societies the following advantages:—

1. The use of its rooms and offices, 50, Great Russell Street, W.C., for the meetings of Delegates forming the Affiliation Committee, and for the meetings of the Sub-Committees it may appoint.
2. The services of the Assistant Secretary and the provision of stationery, postage, etc., for the conduct of federal affairs.
3. Admission of Members of all Affiliated Societies to courses of Technical Lectures which the Photographic Society of Great Britain hopes to organize at half the charges made to non-members.
4. The use of the Dark Room at 50, Great Russell Street, W.C., by Affiliated Members upon payment of a small charge for the use of chemicals.
5. Affiliated Societies will be supplied with two Transferable Season Tickets for the Society's Annual Exhibition.
6. Two copies of the "Journal and Transactions" will be supplied to each Affiliated Society.

A few general rules are given, but these we cannot refer to this week.

The yearly subscription is to be one guinea, payable on election in advance, on the 1st of January in every year.

RESINIZED PAPER.

Now that matt-surface prints are so much in vogue, attention might well be called to this neglected paper, which gives very fine results. It was first introduced about 1863; a Mr. Taylor, of Marseilles, discovered, however, in 1866 that shellac was soluble in alkaline solutions, and on this founded a printing process which has received but little attention.

Mr. A. de Constant gave the following formula ("Year-book of Photography," 1869, p. 55), which gives in our

keeping qualities. The paper, with the best side uppermost, is immersed in the solution for half a minute, then hung up to drain and dry. It is sensitised on a 50 or 60 grain bath for five minutes, and when dry the paper may be kept for several days, or even a fortnight, between sodaic blotting paper. This process is particularly suitable for such rough papers as Whatman's, and rich brownish black tones are obtained; if still blacker tones are required, the amount of borax in the above formula should be decreased, and the phosphate increased. The paper may be

"AMATEUR PHOTOGRAPHER" COMPETITION PICTURES.



SCHUTT ISLAND, NUREMBERG.

BY F. DE PAULA.

hands excellent prints of far finer detail than the ordinary matt-surface paper, and beautifully clear whites:—

Bleached shellac	..	..	..	90 grains.
Sodium phosphate	..	..	..	30 "
Borax ..	..	..	..	20 "
Distilled water	..	..	..	3½ ozs.

The water is heated in a suitable vessel in a water bath, and the salts added, and the shellac previously ground and washed in water added, and the heat continued for two hours, with constant stirring. The solution is then made up to the original bulk with water, filtered, and 7½ grains of ammonium chloride, and a little camphor added, to give it

toned with an ordinary acetate bath, or by the one given below.

Mr. Henry Cooper gave a somewhat different formula, which also gives very fine results, and which can be easily applied to Saxe or Rive's paper, as well as the rougher Whatman's. The directions for the preparation of this paper are taken from Abney's "Instruction in Photography":—"Three ounce of *fresh* white lac are dissolved in one pint of strong alcohol, and, after filtering and decanting, as much water is added as it will bear without precipitating the lac; one ounce of good gelatine is soaked and dissolved in the pint of boiling water, and the lac solution is added with constant stirring. If at any stage

of this operation the gelatine is precipitated, a little more hot water must be added. The pint of lac solution ought, however, to be emulsified in the gelatine solution. To use the emulsion, it is warmed, and the paper immersed in or floated on it for three minutes. When dry, the coated surface is floated in the following for a couple of minutes :—

Ammonium chloride	10 grains.
Magnesium acetate	10 "
Or, ammonium acetate	10 minims.
Distilled water	1 oz.

When dry, it is sensitised on a moderately strong bath (about 50 grains). If more vigour in the resulting prints be required, it is floated on :—

Citric acid	5 grains.
White sugar	5 "
Water	1 oz.

This last bath improves by use, probably by the accumulation of silver nitrate from the sensitised paper." The special toning bath recommended for this paper is :—

Chloride of gold	2 grains.
Pure precipitated chalk	a pinch.
Hot water	10 oz.

Two drachms of sodium acetate should be placed in the stock bottle and the above solution filtered on to it, the quantity made up to 20 oz., and it will be ready for use in a few hours. Over-toning should be avoided.

With all resinsed paper a strong fixing bath is necessary, about 1 in 4 is the right strength. If the prints are fixed without toning, very fine sepia images are obtained, and on Whatman's paper are most artistic and pleasing.

The main point, however, to which we wish to draw attention is the possibility of obtaining a fine matt surface print by a combination of the resin process and gelatino-chloride emulsion, if we take, first of all, Ashman's formula of a printing-out emulsion, which is as follows :—

A.

Citric acid	20 grains.
Distilled water	100 minims.
Ammonia (.9 .s nearly to neutralise)	

B.

Silver nitrate	45 grains.
Distilled water	1 oz.

C.

Gelatine	90 grains.
Ammonia chloride	6½ "
Distilled water	1 oz.

D.

Silver nitrate	40 grains.
Distilled water	180 minims.

The gelatine (Solution C) is soaked in the water till soft, then melted by the aid of a gentle heat, the chloride added, and then D and the A and B gradually. We now prepare a solution of *fresh* white lac, 3 drachms in 2 ozs. of methylated spirit, filter, and add gradually to the above emulsion, which should have been previously washed once or twice in water and then remelted; we obtain an emulsion which may be either poured on paper, or on which the paper may be floated, and when dry, fine matt-surface gelatino-chloride prints can be obtained and treated in the same way as ordinary ones. We have even tried brushing the emulsion on rough Whatman's paper with good results, but for fine and delicate detail a paper with an insoluble substratum is to be preferred. Whilst experimenting in this direction we found ourselves without any baryta or kroide paper; so, as a substitute, held some unsensitised double albumenised paper in the strain of a kettle spout till the albumen was

coagulated, washed it in water, and then coated it with emulsion with very good results.

To the amateur who is not afraid of a little trouble, and has a taste for preparing his own printing-out papers, the above neglected methods offer a very fair field for practical work, and by altering the salting agents a variety of tones of great beauty may be obtained; and although a highly glazed surface is admissible for small pictures, for larger sizes the rough and matt surface papers lend themselves far more to artistic results, and it is possible to so closely imitate sepia sketches as to render them fully equal to the originals.

Letters to the Editor.

THE VIENNA EXHIBITION.

SIR,—In order to collect together the best artistic photographs the world can produce, the Club of Amateur Photographer of Vienna, "at the instigation of its patroness, Her Serene Highness the Archduchess Maria Teresa," aided by the names of many princes, potentates, and powers, offered not only diplomas and medals, but also the greatest respect to photography and photographers as an art and as artists. How do they carry out their liberal promises?

They will give a diploma to each exhibitor, all alike, great and small. So that every one will get a bit of printed paper that he does not like to destroy, and knows not what to do with; for no modest photographer could cover his walls with these cheap awards.

The medals will not be awarded. Why? The wonderful answer is, that the jury of celebrated artists (see numerous circulars for names and titles) have found that the photographs are *too good* to admit of the medals being awarded! That there is nothing new under the sun is disproved now, for here is a perfectly new reason for not making awards. Perhaps it is as well. The medals were to be sham gold ones, it was only the glittering outside that was to be gold or gilt.

But there were still the patrons and patroness left. We were promised to be treated as artists, and, of course, expected to sell our pictures for once as works of art, and not be valued at a few pence per foot. What happened? Why, every exhibitor received a circular, cleverly worded, in which it was pointed out in effect that it would be a most flattering recognition of their merit to allow the exhibitors to supply very cheaply, or to present collections to, various princesses, archduchesses, millionaires, institutions, and private persons, as well as those "academy professors" who were on the jury.

Now, it is possible that among the lot there may be a few obsequious exhibitors who would run themselves to the verge of bankruptcy to get a few of their prints into royal collections, but I hear that it is the intention of the principal exhibitors to respect their art and not allow themselves to be overcome by the glamour of great names into treating their work as of no value.

A VIENNA EXHIBITOR.

* * * *

ACTION OF LIGHT ON THE SENSITISED SURFACE.

SIR,—It seems to be generally assumed by photographic scientists that the action of light on the sensitised film so far weakens the combination of the constituents of the salts of silver, that the image, though not visible after exposure, only needs the developer to be applied to abstract the loosened bromine, iodine, or chlorine, and cause the deposit of silver, and thus reveal the image.

But this theory, it seems to me, is contradicted by the remarkable fact that when sensitised paper, bromide paper for instance, or an ordinary dry plate, either bromide or chloride, is exposed under a negative during normal exposure, a positive is the result; but if the exposure be extended to double the normal time, or longer, a reversed negative is the result. It is scarcely possible that the combination of the constituents of the silver salt, loosened by the action of light, can be re-fixed by doubling the exposure, while the parts not acted upon with normal exposure are so with double the exposure.

I should be glad if any of your scientific correspondents can explain this phenomenon.—I am, yours, etc.

T. G.

Lewisham, July 6th, 1891.

Photographic Procedure.

By E. J. WALL,

Author of the "Dictionary of Photography."

SECTION I.

THE CAMERA AND ITS APPURTENANCES.

(Continued from page 7.)

Bellows.—This portion of the camera has been devised for the saving of weight, compactness and portability, and is usually constructed of leather. There are four varieties of shapes in bellows in use for commercial cameras—the square, the oblong, conical and truncated. When choosing a camera we strongly recommend the square bellows in preference to any other shape; the oblong necessitates turning the camera itself bodily round when taking pictures horizontally, provided upright pictures have been previously taken, or *vice versa*; the conical shape is apt to cut off the top or bottom of view, when using short focus lenses; and the truncated bellows are open to the same objection. On the other hand, square bellows mean a slight increase of size and weight, disadvantages which are outweighed in our opinion by the increased advantages for copying, enlarging, etc. When in use, the bellows should be periodically stretched to their fullest extent and carefully brushed, or wiped with a cloth, both inside and out. Mr. Lyonel Clark has pointed out also that mildew inside the camera gives rise to foggy plates.

There are always a few workers who yearn to undertake the manufacture of everything that they can, and for their benefit the following notes on the making of bellows are clipped from the *Scientific American* :—

Diagram A illustrates the method of outlining the sheet with measurements for a 5 by 8 bellows. The sheet, being bent around in the direction of its length to form the bellows

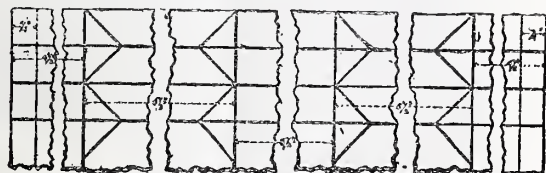


DIAGRAM A.—Measurements for a 5 by 8 Bellows.

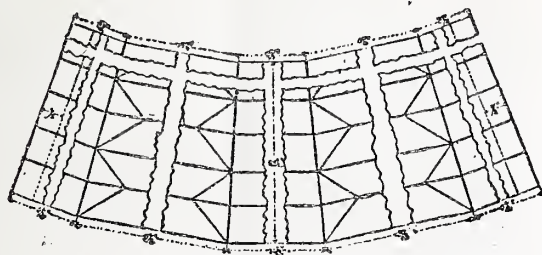


DIAGRAM B.—Plan and Measurements for an 3 by 10 Bellows.

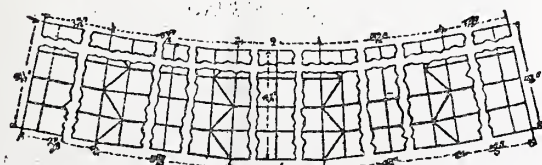
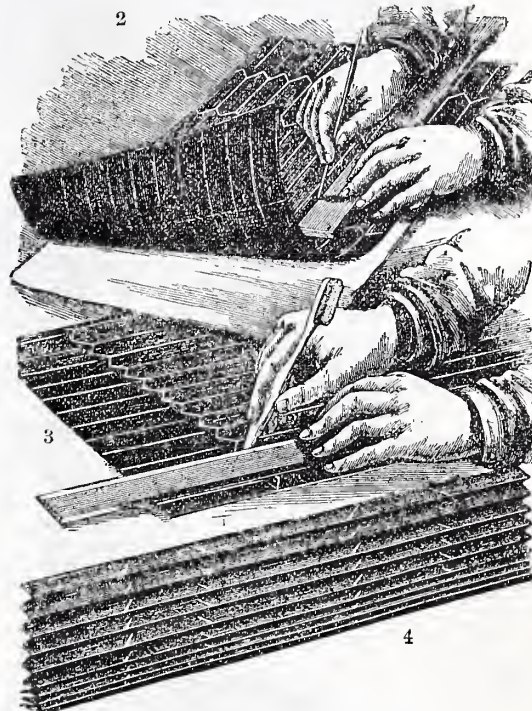


DIAGRAM C.—Measurements for a 4 by 5 Truncated Cornered Bellows.

requires that the lines representing the four angles of the bellows be drawn at right angles to the line of the folds, or parallel with the shortest length of the sheet. Two parallel

lines are first drawn, $8\frac{1}{2}$ ins. apart, equally distant from the centre of the sheet, at right angles to its longest length. Then $5\frac{1}{2}$ ins. equidistant on the other side of these lines two other parallel lines.

These four lines represent the extreme four corners of the bellows, which, for convenience, we will call corner lines. They are erased from the inside. The bottom side of the bellows is divided, and an allowance is made for the lap. As the width of each side of a fold of the bellows is to be $\frac{3}{4}$ of an inch, we next proceed to draw parallel lines, $\frac{3}{4}$ of an inch apart, across the longest length of the sheet, as shown by the heavy lines in the diagram, commencing $\frac{3}{4}$ of an inch from the edge. These



FIGS. 2 to 4.—Creasing and Folding the Bellows.

represent where each fold is to be made, which we will term fold lines.

To find where the corner folds are to come, we next draw four lines, parallel with the first four corner lines, two of which are $\frac{3}{4}$ of an inch distant from the outside of the two centre corner lines. When so drawn, we have a series of $\frac{3}{4}$ inch squares made with respect to the corner lines and fold lines, the squares lying toward each other, on each side of the corner lines. Starting from the edge of sheet, we now intersect each square with diagonal lines, carrying it outward from the two centre corner lines, and inward from the two outer corner lines. In the second square the reverse direction is taken. Thus we find the proper location of the corner folds by intersecting all the squares.

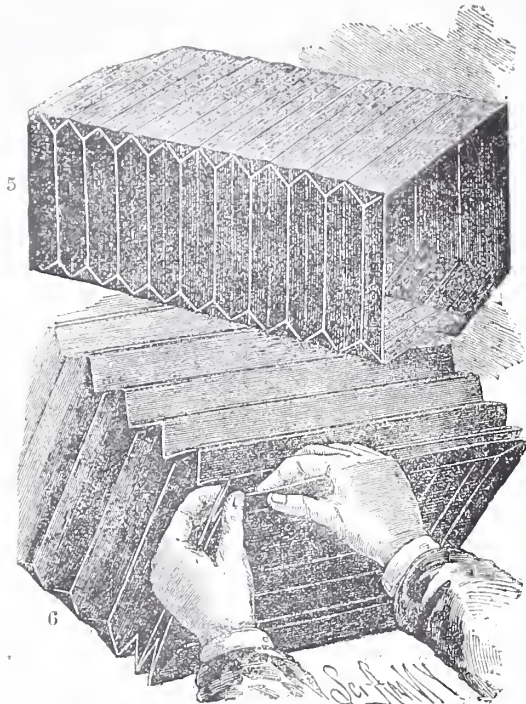
Having laid out the location of the folds, the next step is to ascertain which lines are to be creased from the outside, and which from the inside of the bellows. Those to be creased from the inside are indicated by open or double lines in the diagram, while the heavy lines are to be creased from the outside.

Fig. 2 in the engraving shows the manner of transferring the lines to be creased on the inside to the underside of the black sheet. The latter is laid upon a sheet of chalked paper, and with a rule and metal point the double lines drawn on the upper side of the sheet are run over. The pressure of the point is sufficient to leave a distinct white line on the under side of the sheet.

Fig. 3 illustrates the way the lines are creased, which may be done by drawing and pressing the point of a tooth-brush handle or a carpenter's square lubricated with paraffin wax over the lines. First the side intended to form the outside of the bellows is creased, then the other side.

The sheet is folded up, after creasing as shown in fig. 4, and tightly compressed, which gives the folds a definite, fixed form. The sheet is next drawn out flat and folded transversely to its length at the four corner lines, as shown in fig. 5, and the lap of a quarter of an inch at the bottom is cemented by

glue or mucilage. A simple way to glue the joint is to first secure one end of a long, flat stick in a vice, and then slide the



FIGS. 5 and 6.—Creasing and Folding the Bellows.

bellows over it, allowing the lap to rest on the stick. A slight rubbing pressure on the paper will bring the previously-glued

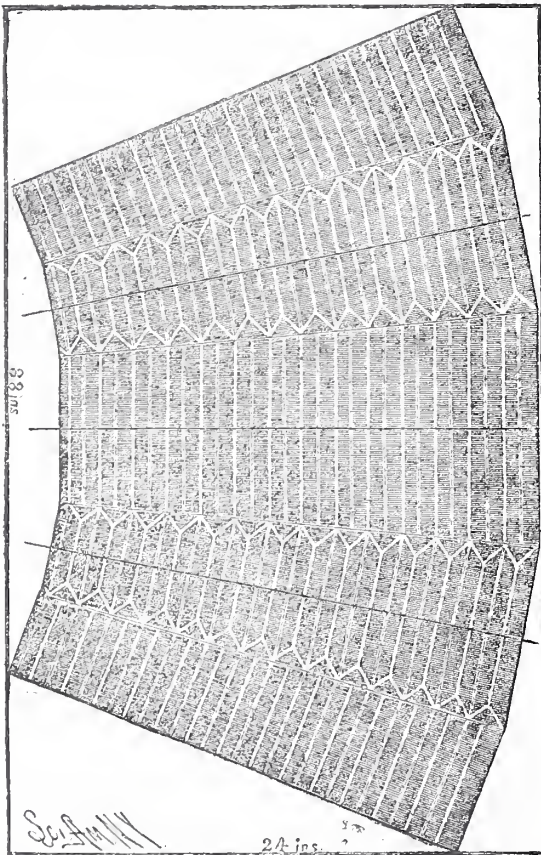


FIG. 7.—Plan of an 8 by 10 Truncated Pyramidal Bellows.

surfaces into close contact, and make a permanent light-tight joint. When the joint is perfectly dry, then the bellows is formed, as shown in fig. 6 by commencing at the corners, and

gradually crumpling and bending in the creased portions, continuing the manipulation on each corner of each separate fold one at a time. It is surprising to notice how readily the folds harmonise in with each other, provided the sheet has been carefully creased. To render the bellows waterproof, it is varnished on the outside with two coats of shellac varnish. When secured to the front and rear frames of a camera box, we have a waterproof non-crackable bellows which is absolutely light-tight, tough, and capable of being very compactly folded up. If light-coloured paper is employed, the interior of the bellows should be blackened with a varnish composed of shellac and lamp black. If the shellac is dissolved in water, borax or ammonia must be added to make the shellac dissolve.

In making a truncated pyramidal shaped bellows, the plan of laying out the lines for creases and folds is quite similar to that previously described, with the exception that special compensation for the gradual tapering of the bellows has to be calculated for. The width of one-half of the folds is proportionately narrower than the other half.

In fig. 7 is seen the plan of an 8 by 10 bellows, in which the solid white lines represent the crease lines for the sunken folds on the outside of the bellows, and the double lines the crease lines for the under or inside folds. The size of sheet required is 24 by 38 inches.

We first draw a centre line in the direction of the length of the bellows, then, supposing the back of the bellows to measure $10\frac{1}{2}$ inches, and the front end $6\frac{3}{4}$ inches in width, we

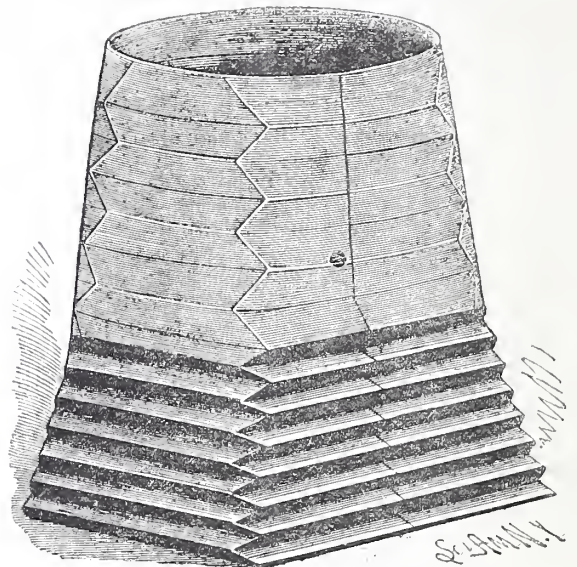


FIG. 8.—Truncated Cornered Pyramidal Bellows.

lay off half of this measurement on each side of the centre line, and connect the ends of the two front and back cross lines. These oblique lines form the two upper radial corner lines of the bellows.

Supposing the sides to measure $8\frac{1}{2}$ inches wide on the back, and $4\frac{1}{4}$ on the front or small end, we divide the distance at each end and locate the side centre lines (see fig. 7). From these we determine the location, by measurement, of the two lower radial corner lines of the bellows. The bottom of the bellows is then divided, and one-half added to each side of the sides of the bellows, an extra length of $\frac{1}{2}$ inch being allowed for the lap or joint.

The crease lines for the cross folds are next determined by first dividing off on the respective centre lines, in equal distances, the width of a double fold, which may be about $1\frac{1}{2}$ inches. The measurement should commence from the wide end and proceed toward the small end. Cross-fold lines are then drawn between the four radial corner lines in each section, at right angles to their respective centre lines, and will meet each other, producing a shape similar to a portion of an octagon. The next step is to locate the position of the intermediate fold. This is done by laying the base of a draughtsman's triangle on the base line, or back of line, and drawing a line at 45 degrees inward from the intersection of the corner line with the back line, nearly across the fold, then by reversing the position of the triangle, so that its base is coincident with the next fold line, and drawing another diagonal line at 45 degrees inward from the intersection of the fold line

with the radial corner line to where it will cross the other diagonal line. Where they meet will be the proper location of the intermediate fold line. This will be the same for all the intermediate folds. The points for these lines should then be located on the centre line, and they should be drawn parallel with the other fold lines between the two centre corner lines.

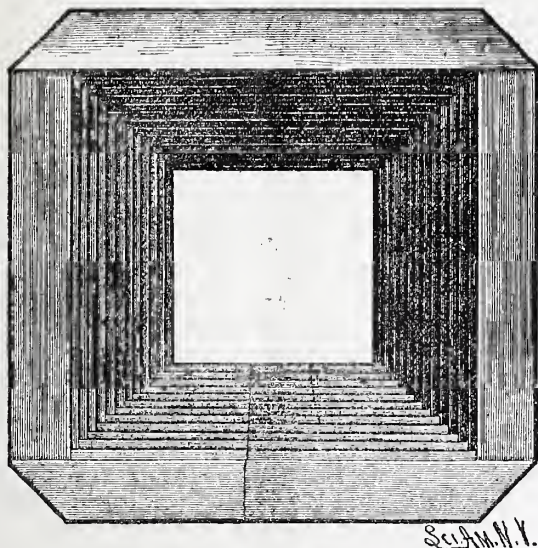


FIG. 9.—Back of Truncated Cornered Pyramidal Bellows.

Each side of the bellows is measured off in the same way. The corner folds are located precisely as in the case of the rectangular bellows, by drawing lines $\frac{3}{4}$ of an inch distant from the corner lines parallel with the latter, and crossing the squares so formed by diagonal lines, which represent the zigzag lines of the corner folds. Fig. 7 and diagram B show positions of these lines. The double lines are to be creased from the inside.

One slight objection to this form of bellows is that it is liable to stick and not to freely expand. Hence Mr. Bierstadt

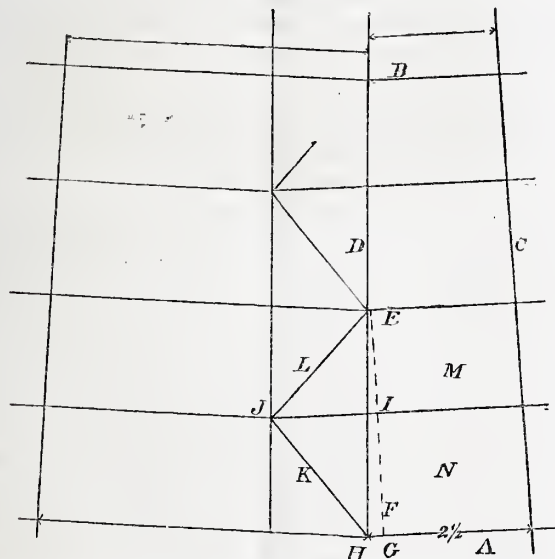


DIAGRAM D.—Plan of Truncated Corners.

has devised a simpler shape, in which the corners of the folds are truncated. This form is clearly shown in figs. 8 and 9.

The bellows, by its peculiar construction, may be folded up more compact than any other, and at the same time is so elastic and springy that its folds do not in the least adhere or stick to each other. In fig. 8 we see the conical shaped sheet after it is creased and cemented, in the process of being changed from the round to the square shape. After the flat sheet is creased, its ends are glued together, which forms a truncated cone. Then it is compressed at the creases into folds, as shown in fig. 6.

Fig. 9 shows the peculiar corner fold of this bellows, the joint at the bottom, and its compact form when compressed.

Diagram C shows the plan and measurements of a bellows adapted for a 4 by 5 camera, as shown in figs. 8 and 9.

The special difference in creasing from that shown in fig. 7 and diagram B is in the corner folds, which is explained more clearly by referring to diagram D.

Supposing the inside measure at the back to be 5 inches, and at the front 3 inches, we locate a centre line, C, and lay off the side corner line, D, as heretofore stated. We then divide the centre line into inches, and draw lines parallel to A, extending them on each side as far as side line W. We next determine the position of the intermediate line I, by deducting from half the distance between E and A the amount of space between G and H, obtained by dropping a line from the intersection of fold line E, with cornerline D, to the base line A, the said line, E F, being parallel with the centre line C. Just here is an important difference. Instead of stopping the intermediate line, at the corner line D, we extend it to point J, or a distance beyond the perpendicular line I F, equivalent to the space between I and F, or between E and I. We then draw the line J parallel with corner line D, and have a guide where to draw the zigzag line, since the intermediate lines like I extend to line J, and the inner fold lines, like A and E, to line D. By drawing a diagonal line from H to J, across the square K, and from J to E across the square L, we have the proper location and angle for the corner crease lines. From the point H, we measure off half of the width of the inside of the intended side of the bellows. Draw a centre line perpendicular to its base, and measure off on that the position of the fold lines as described for the top of the bellows. It will be seen that on the sides of the bellows the intermediate lines stop at line J, while the other fold lines cross the line J, and meet at E. By this method a curious skew shape of the cross lines, especially between lines D and J, is observed, but is necessary in order that the folds may come out in unison.

A bellows constructed after the above plan presents a very neat and light appearance. It requires a little more paper, but is, by reason of its elastic qualities, almost self-acting. It should be remembered that the use of dividers must be avoided, since the slightest puncture in the paper will damage the bellows.

It is advisable that a model of the bellows be first planned out on a thin sheet of paper, then creased and folded, in order that one may become familiar with the peculiarities of the folds, and the way of folding.

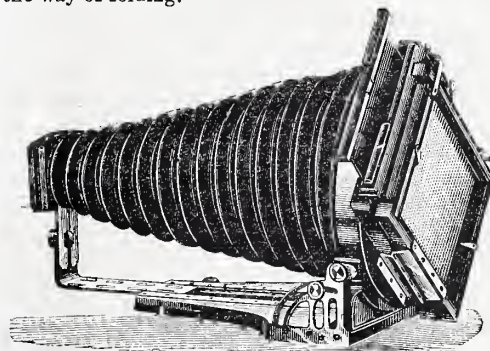


FIG. 10.

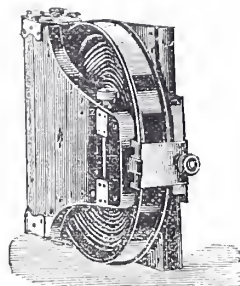
In calculating the size of the sheet required for a given length of bellows, allowance must be made for the extra length taken up by the folds. If a bellows is to be constructed for a camera adapted for 5 by 8 pictures, and it is desired that it have a stretch of fifteen inches, a sheet of paper 29 inches long by 15 inches wide should be selected. For this purpose we recommend a black leatherette paper, to be had from manufacturers of book-binders' materials.

A yellow pencil should be used, so that its mark may be easily traced on the black paper, and a sheet of transfer paper, with one side rubbed over with chalk, as large as the bellows sheet, should also be provided.

It may happen that from constant or rough usage the bellows begin to show signs of wear outside, and perhaps leak, or allow a little light to enter, which would entirely obviate the possibility of good pictures. The directions for testing the same are included in the general directions for testing the camera, *q.v.* Messrs.

Pearson and Denham, of Leeds, have lately introduced a special form of circular-bellows, which have the advantage of closing up very small, and yet in spite of their conical shape do not cut off any portion of the view. The camera, which the makers call the "Circumbra," is shown in the two following sketches supplied by the makers.

The length, pull or stretch of the bellows is an important point, and one in which commercial cameras never satisfy me personally. It should be at least twice the longer base of the plate, even for ordinary work; and for special work, such as copying, etc., and for long-focus lenses, three times the longer base is not too long. Thus, for a quarter-plate, it should be 14 ins., for a half-plate 20 ins., for a whole-plate 26 ins., and so on.



CLOSED. FIG. 11.

Studies in Art for Photographers.

By REV. F. C. LAMBERT, M.A.

CHAPTER X.

REPETITION AND RADIATION.

EVERY observant student of nature must have noticed certain very evident laws of growth in the living part of the natural world—*i.e.*, the world of animals and plants. It is to one of these great laws or principles that we may with pleasure and profit now give some attention, *viz.*, to the radiate principle.

This may be seen in almost any or every leaf of any dicotyledonous plant—*e.g.*, the ivy, rose, clover, etc. Take any such leaf and observe, firstly, if it be a compound leaf composed of several leaflets, that there is one principal leaflet, either larger or longer, or more rounded, or more pointed, etc. (probably at the end of the midrib), taking pre-eminence over and command of all the others, teaching us the law of principality. Then note, too, that the remaining leaflets are disposed more or less symmetrically about this main stem or rib of the leaf, teaching us symmetry and balance. But *very, very* seldom is the symmetry precise and exact; on the contrary, as there are two sides to every human face—the eyes are seldom, if ever, exactly alike; the two sides of the mouth have *some* difference; so with leaves, branches, flowers, limbs, features, etc., in their symmetry there is a refined variety inseparably connected with individuality and character.

But, furthermore, observe how the leaflets seem to be springing from some common home. Nay, more; this is carried out still more obviously in the ribs and veins of each leaf. Extend your observation to the lines, often recording growth, in other natural objects—*e.g.*, shells, seeds, feathers, etc. Note also how the human ribs seem to radiate with a wave-like growth from the vertebral column and gather up again towards the sternum or breast-bone. Nor was primitive man slow to observe the economy of material and strength in unity which such an arrangement gave. His boats have their ribs arranged on the same broad principle.

Now, although we have long ago ceased to realise the mental steps which connect radiation from a common centre or line of growth, with its basis in community of origin and unity of design, yet the true artist, *i.e.*, the lover of nature, often unconsciously to himself, is not slow to seize upon this

principle, and carry into his work of art this lesson of nature.

We may see how strong is this principle when we examine and analyse almost any work of a purely decorative character, and observe how often it happens that the grace of line is associated with the community of origin.

Let us now examine another somewhat similar, closely related, and widely diffused principle to be observed by the student of nature, *viz.*, the principle of repetition. An extreme and boundary case comes to mind at once in the world of crystalline growths. Although at times there may be a tendency to weariness, produced by pronounced similarity (and often symmetry also), yet other characters come in, and more often than not give grounds for aesthetic sensations.

The photographic art-student is, however, more interested in the world of plants and animals and their usual surroundings than in that part of the world of inanimate nature bounded by straight lines and points. Here again the principle of repetition is to be observed at every turn. See how wave after wave follow each other with an observable measure of similarity—seldom or ever with the "machine-made" exactitude of form—yet "near enough to be related." Again, as the echo is not so strong in tone or timbre as the sound it repeats, so the reflected image, being a repetition of form, is never an exact repetition in either tint, tone, or key. Ruskin has ably pointed out that as the cuckoo's note, repeated over the untrodden meadow, is in strict accord with the peaceful surroundings of country quiet, so generally we ought to have no difficulty in perceiving that repetition enhances and supports the general sentiment of quiet, calm, and peaceful repose.

It is to be carefully observed that throughout nature generally there runs an underlying principle of compensation. As, for instance, where we have a more or less exact repetition of form, the tendency to monotony is often met by the introduction of variety in colour; or again, where the radiation of growth is very marked, there is frequently considerable variety in form and structure—and so on generally. Thus we seldom find the flowers of brilliant hue to have the sweetest scents. Compare the violet and the geranium.

Now, as the true artist, be he poet or painter, ever and again returns to nature for his knowledge and inspiration, so should the photographer seek for such hints when selecting and arranging or composing his efforts.

The chief end and aim of all great work is associated with unity, harmony, and simplicity. Hence any principle which points out anything which helps or hinders any of these desirable results must of necessity be a principle which the artist cannot well afford to ignore.

As we have already seen that one of the chief impressions conveyed to the mind by radiation is associated with community of origin, assisting materially in aiding the feeling of harmony and unity; thus will now be seen the reason for associating repetition with radiation in the mind, as pointing somewhat in the same general direction, not forgetting that while repetition chiefly supports the mental image of the various members, being all of one family, repetition tends to emphasise the feeling that these brothers are in unity and peace with each other.

Now when we purpose carrying out in practice the foregoing theories, it must never for one moment be forgotten that these or any other working principles or devices are to be "dragged" in anywhere and everywhere, but rather that the great and chief central thought shall strike the key, and these or any other devices are only to be employed just as far as they support and forward the theme or motive *without betraying themselves*, and not one whit further.

Everyone must know by inspiration what a critic means when he says a picture is *painty*. So may any of us know what is meant if just criticism points out that a work is *artificial*, i.e., relying on artifice in the undesirable sense of desiring to make its presence felt by force of craft or trick. In somewhat the same way we may contrast the terms "artificial and artistic" with sentimentality and sentiment; in each case the pairs of words, springing from a common root, are yet in daily use more and more diverging in opposite directions, as likewise are the twin terms cant and chant.

That the two principles which I have taken for my text are of real vital importance, one need go no further than Turner's work to prove. But no earnest student will rest satisfied with examining the work of any, even the greatest, master without also being prompted, whenever opportunity offers, to return again and yet again to the origin and fount of all art, viz., Nature.

"Art is art precisely because it is not nature," is attributed to Goethe, and he might with equal truth have added, art is distilled from nature through the alembic of human thought and feeling.



Photographic Convention of the United Kingdom.

ADDRESS BY THE PRESIDENT (WM. BEDFORD).

FIVE years have now elapsed since the first meeting of the Convention, and this, our sixth annual assembly, finds us in the City of Bath, built on the reputation of its healing waters, but of especial interest to us photographers as being in the neighbourhood of Lacock Abbey, the home of Henry Fox Talbot, and undoubtedly the first spot in the kingdom ever depicted by the photographic camera.

Since our last meeting at Chester it certainly cannot be said that the general interest taken in photography has in any degree abated; and to assure ourselves of this it is only necessary to point to the increasing number of societies and clubs which have sprung up all over the civilised world, to the spread of photographic literature and journalism, and, as a notable instance of the popularity of the art, to the successes claimed for the numerous exhibitions held at Liverpool, Vienna, and elsewhere.

Photographic societies generally have been showing marked activity. Although the scheme for the formation of a Photographic Institute, brought forward by the Photographic Society of Great Britain, has at present met with little more than moral support, and it is now clear that there is no immediate prospect of carrying it out in its entirety, the recent acquisition by the Society of premises of its own places it in a position to offer to other societies a scheme of affiliation which promises many advantages, and which can hardly fail to work, in all cases where co-operation is desirable, to the mutual advantage of all without in any way interfering with individual action.

The new premises of the Camera Club are a monument to the energy and enterprise of its management, and the annually recurring conference of that body, as well as its periodical "one-man" exhibitions, reminds us as in past years of the good work it is doing.

The Photo-Survey Council of Warwickshire—a body constituted out of the photographic societies of Birmingham and Warwickshire—is doing excellent work, and challenges friendly rivalry with other counties. It embraces archaeology, ethnology, geology, and botany, in addition to the ordinary work of recording the general appearance of the county at the present day.

In speaking of advance in the science of photography, it is difficult to gauge the importance of discoveries which require time to develop their capabilities, and I shall very possibly pass over without notice germs of discoveries more important than those I shall mention. There can, however, be no doubt that, in the province of systematic or specialised investigation, Messrs. Hurter and Driffield, by the further prosecution of their researches into the effect of development on the ratio densities of negatives, and other photographic scientists in critically following them, have been doing most valuable work; and, when it is remembered that these investigations are only a first step towards the establishment of an absolute standard of sensitiveness, it is easy to appreciate the importance of the elimination of all errors of observation and measurement from their calculations.

Perhaps the announcement of most interest to the photographic world has been that of M. Lippmann's discovery of a means of representing by pure photography, and subsequently fixing the colours of the spectrum. Possibly no discovery is ever announced in the present day without resorting to a long stretch of unscientific imagination, and this has certainly not been absent here; but it seems that M. Lippmann's experiments have been guided by a theory propounded in 1887 by Lord Rayleigh, that the colours of Becquerel's reproductions of the spectrum were possibly due to the action of stationary luminous waves producing, in a nearly transparent sensitive film, a laminated structure which would copiously reflect the particular kinds of light which had produced them. The essentials, according to M. Lippmann, are the continuity or absence of granularity of the film, and the presence during exposure of a reflecting surface behind this film. Spectrum red, yellow, green, and blue have thus, it is said, been vividly reproduced and fixed; but the process is not applicable, so far as can be foreseen, to the reproduction of impure or mixed colours. There seems to be plenty of scope for experiment in this direction, and, it may be added, plenty of scepticism as to the results obtained.

A practical method of producing a direct positive from nature, or a reversed negative direct from another negative, has long been a desideratum, so that unusual importance attaches to the discovery by Colonel Waterhouse, that the addition of a minute quantity of thio-carbamide or of thio-sinamine to the eikonogen developer has the effect, in favourable conditions, of effecting during development a complete reversal of the photographic image, and this with exposures one-tenth the duration of the normal. The substance he finds to answer the purpose best is Dr. J. Emerson Reynolds' preparation of thio-carbamide with ammonium bromide, which is a combination of four molecules of the former substance with one of the latter. Additional interest attaches to this process by the further observation of Colonel Waterhouse that development is accompanied by electro-chemical action in which the current passes in the reverse direction to that observed in the ordinary course of development.

In the domain of photographic optics the outlook is encouraging. We have specifications from Dr. Ernst Abbé and Dr. Paul Rudolph of an apochromatic objective composed of two uncemented single lenses and a compound correcting lens of considerable focus; also three forms of unsymmetrical doublets, each possessing special characteristics of its own. The construction of these lenses, which has now been rendered possible for the first time by the introduction of the $x.97$ kinds of optical glass, has been carried out by Zeiss at Jena, and they have been favourably reported upon by Dr. Stolze and by Dr. Eder, but they have not at present been introduced commercially.

The primuline printing process of Messrs. Green, Cross,

and Bevan, which was brought before the British Association at Leeds, has attracted much attention, and has found useful application in printing on textile fabrics as well as in copying drawings and plans. It is based on the fact that diazotised primuline is decomposed by light, and can then be developed by a phenol or an amine, producing coloured designs on a yellow ground. In Feer's diazo printing process, which preceded the primuline process, similar colours are produced on a pure white ground without development. The former method requires a reversed positive, the latter an ordinary negative to print from. Both these processes are of special interest, marking as they do a new departure in photographic printing.

Mr. M. Carey Lea, further pursuing his experiments with allotropic silver, has produced a well-defined form between it and ordinary silver, of a bright yellow-gold colour, and describes the effect of different forms of energy upon it, producing varieties of colours not hitherto obtained.

When we look back on the photo-scientific achievements of the past twelve months, I think we must all agree that there has been no lack of progress to record; but it is a question of perhaps still more moment to inquire what advance has been made in the artistic direction. With the numerous exhibitions now held, we have, in spite of the unnecessary restrictions imposed, ample means of forming an opinion of the use we are making of the tools which science places at our disposal. At our last meeting it was deplored that a new school had arisen among photographers, a school whose teaching implies "that art is not to be found in the ruts of tradition, and that beauty is not to be sought in a far country," and was asking if photography, which by its mere existence had already done more than anything else to inculcate truth in art, was not itself in dire need of reform; and, further, if it was not possible so picture by legitimate means a loftier conception of nature than was attainable by a mere transcript. These are the principles it was thought dangerous to spread; and, pointing to the crude attempts of its disciples to depict their impressions of nature, some went even so far as to suggest that photography was so far countereffiting other methods of illustration that it was running imminent risk of survival only by mimicry! This revolutionary school, however, still lives, and, not only so, but is reaping due recognition of its merits, though not unmixed with wholesome criticism of its shortcomings, and in spite of the fact that its former master, by his great act of renunciation, has left it to its own devices. After all, are we to conclude that its work is inimical to progress? Is it all to end in unilluminated dreariness? We are, at least, at liberty to exercise our right of judgment, though it is humiliating to be told that a picture one had admired on the walls of an exhibition has been sing'ed out for distinction as an example of an evanescent printing process, and that another has been similarly honoured partly for the reason that it was taken without a lens. But we must not be too hard on our judges; we voluntarily submit our work, and must abide by the verdict; and the reasons which prompt it, though one could wish that rules might be adopted for exhibitions which would tend more to the glory of photography and less to that of the individual photographer and the process he employs. It is, nevertheless, true that science and art react mutually on one another, and are inter-dependent; consequently the photographer who is a true artist can as little afford to despise the aid of science as science can afford to ignore the requirements of art. The demand is made for the more accurate rendering of tone and colour, so that we may no longer be shocked by the palpable resort to expedients which constantly meets us in photographs which would be admirable as pictures if it were not for the suspicion of

unreality such practices engender. Moreover, let us not imagine that there is any danger of our art being made too easy. Even if automatic photography be an accomplished fact, some measure of responsibility will still rest with the individual who drops in the coin. Though "art is a translation of nature," it must always be remembered that "we make from within us the world which we see" and transcribe. It is true our translations of nature may be cold glitter beside the reality; but photography is our pencil, and if we use her fairly she will not fail us.

Holiday Resorts and Photographic Haunts.

BODMIN (CORNWALL) AND NEIGHBOURHOOD.

This is a very old town, hence it has features which to lovers of antique relics and picture-making camera men would well repay the expenditure of any tourist's time. Until recently it was very inconvenient to get at, the railway station being $3\frac{1}{2}$ miles from the town, but now there is a new line opened which brings one close to it. It is full of hotel and coffee tavern accommodation at very moderate charges. There are many places in the town and near it that would be well worth a few dozen plates, viz., the fine old church of St. Petroe, ruins of St. Thomas's Chapel, public buildings, and quaint structures. Ten minutes' walk will bring you to an eminence called the Beacon, where some capital views of the town can be got from different points of view, after which a walk of another ten minutes will bring you to an opposite eminence called Castle Hill. Here may be got views of the opposite hill, which you traversed in the morning, also the remains of a fine old tower, called "Bury Tower," standing alone and well draped in clustering ivy. From here you may take a quarter-of-an-hour or twenty minutes' walk to Barrycombe Mill, which is quaint, antique, and picturesque. Many have been the hours spent in sketching this spot.

A second day may be begun by half or three-quarters of an hour's walk to Dunmere Valley, considered by all who have seen it to be the most beautiful valley in Cornwall. It affords a variety in landscapes, and river and woodland scenery. A walk of another ten minutes will bring you to Dunmere Falls or Water Dam, which will afford several pictures from different points. Close above this is Black Pool, which is deep and silent, with lofty trees on either side, reflecting themselves in the mirror surface beneath them. You may be accommodated near this spot at a place called "Dairy," with refreshment, before again returning to town.

Another day might be very profitably spent by making a journey to Lanhydrock, about $2\frac{1}{2}$ miles from the town, the country residence of Lord Robartes. Free permission, to amateurs only, I think, may be got from the house steward. Bring your whole-plate or 10 by 8 cameras to do justice to this mansion and gardens, also its church, and a fine avenue of trees about a mile long, a great portion of it running in a parallel line, giving grand perspective effect. The "Gate House," fine tree studies, and patches of landscape and woodland scenery are all suitable for the picture-making camera man.

If you are not too fatigued, you might traverse the avenue aforementioned, at the end of which is Newton Lane, where some fine pictures may be made from some old cottages. Proceed onward about three-quarters of a mile through the carriage drive to Bodmin Road, where train can be taken for Bodmin.

Two other very profitable days might be spent, making Bodmin your centre, viz., by rail to Lostwithiel, where good boating scenes can be obtained and a fine picture from the ruins of Rostormel Castle, etc.

Another day by rail to Wadebridge, where there is a strong tidal river affording good barging and boating pieces.

Any information would be gladly given by the writer, address with Editor.

A. J.

Chemicals.—Messrs. Morris, Banks and Co., of High Street, Ball Ring, Birmingham, have sent us one of their price lists of photographic chemicals, varnishes, retouching medium, enlarging, mounts, etc. The charges are very moderate, and the name of the firm is a guarantee of their purity.

WINCHESTER.

BY BENJAMIN WHITROW.

The ancient city of Winchester is so full of subjects for the camera that it would be difficult to know where to begin were it not for the Cathedral, but, of course, this is the first object of interest. I do not know if a camera would be allowed inside, but possibly it might be by the sanction of the courteous Dean, and, if so, it would mean a long day's pleasure, so numerous are the styles of architecture and various chantries and monuments. Outside, the west front and the avenue of lime trees (if not in too full leaf) make good subjects, whilst one of the few tombstones on the west side may also claim a plate, if only to prove the truth of the epitaph thereon:

"An honest soldier never is forgot,
Whether he dies by musket or by pot."

At the extreme south of the Cathedral Close is one of its gateways with a half-timbered house adjoining, called Lamb's Close, best taken between 7 and 8 a.m. At the same time, and almost by merely turning round, a very effective view of the Deanery, with the Cathedral in the background, may be secured; a slightly wide-angled lens would be serviceable. Just outside Lamb's Close is the Kingsgate, with the tiny church of St. Swithin over it. A short distance from here is the College, William of Wykeham's celebrated school. Nothing can, however, be done here unless leave be obtained to go inside; possibly this might be granted during vacation time. Return to the High Street by way of the Weirs, where a plate or two can be advantageously used. Close by, being east of the city, is St. Giles's Hill, from the summit of which a panoramic view of the whole of the city may be obtained, by exposing two or more plates, and joining up the resulting prints. The graceful Butter Cross in the picturesque High Street will also attract attention, but there is no light on it until late in the day, and even then the advertisements on the houses mar it. The fine old Westgate can be taken before breakfast, or better from the other side, about 3 p.m.

A narrow passage opposite the town clock may be thought worthy of a plate by some. South of the city, St. Catherine's Hill, with a cottage and trees in middle distance, and the Itchen in the foreground, make a pretty picture from the water meadows near the pumping station. Also, south of the city at one mile distance, is the Hospital of St. Cross, full of interest, a general view of which from the south-west is best taken in a meadow beyond. A triple arch in the south-east angle of the exterior of the church is interesting. The quadrangle is very beautiful, and several plates may be exposed, not forgetting the Ambulatory on the east side. The splendid interior of the church may be done by permission of the Master, or perhaps of the Brother who shows the place. Isochromatic plates would be the thing, as the colouring is beautiful.

If time is of no consequence, the Nun's Walk, with its avenue of trees in the water meadows on the north of the city, will be found a delightful saunter.

Four and a-half miles to the west is the pretty village of Hursley, inseparably connected with Keble, but either a carriage or Shanks's mare must be used. Nearer home, within a mile north-west of the railway station, is the village of Wyke, worth the walk and one plate exposed on the pond, with a background of trees and thatched cottages, and the quaint little steeple. Be there at 12 o'clock, as probably the farm horses will be watered at the midday rest.

I could suggest many other objects and places, but the tourist must use his eyes.

Our Contemporaries.

The *Photographic Herald* says: "We have received a number of letters from not only amateurs, but professionals, stating the difficulties they have met with in the matter of mounting glacé aristo prints, and we would, for their benefit, give the following simple directions, which seem to be all-sufficient for producing perfectly satisfactory results. After the print is glacé and trimmed, do not wet it again, but place it on its face, and on the back of it put a piece of card-board or paper, about $\frac{1}{4}$ of an inch smaller each way than the print, so as to leave a margin of about $\frac{1}{8}$ of an inch all around. For your paste, make a gelatine glue, with water, and then add to it alcohol, drop by drop, as much as it will stand without curdling. Apply this glue to the exposed edges on the back of the print, and mount dry; paste the edges only; press down tight, covering the print with a piece of blotting or other white paper, and you will find that the finish of the print will not be injured in any way, and it will lie smooth and flat."

The *Photographic Times* says: "Photography for Women has been recommended so often and so earnestly as a business that, now that some few are taking it up as a serious occupation, it is interesting to note the special differentiation of the pursuit which attracts the sex that wears and loves gowns. There are a few portrait photographers among women who meet with only moderate success, curiously enough, in posing their subjects, but find a field of usefulness in the picturing of children. There are springing up also dress photographers, whose business, though a new one, appeals so strongly to certain feminine instincts that the seeds of success seem likely to sprout and thrive. One of the two or three already established was saying: 'So far my work has been mostly the reproduction of trousseaus. Brides come to me to be pictured in all their different wraps and hats and gowns. For a girl whose wedding came off last week I made twenty-six costume pictures. She had them bound into a wedding album. Of course, it takes ingenuity to get variety of attitude and to bring out the best points of each toilet. I think women prefer to go to women on such an errand, because they think a man, down in the bottom of his heart, might conceal a smile.'"

The *Beacon* says: "If we could examine, say, the whole of the landscapes that have been taken during the past twelve months, by professional, as well as amateur photographers, we would find ample evidence in support of this statement, not only in the want of interesting material in the foregrounds, a fault which is frequently difficult to avoid, but also in an excess of foreground that there should have been no difficulty in obviating. Probably the most difficult to deal with and the most unsatisfactory of all foregrounds when not well managed, is that represented by a sheet of water, whether at a bend of a broad river or a small lake; so unsatisfactory indeed, that where nothing but water can be obtained, no matter how charming the middle distance and distance, and how delightful the general effects, the foreground excepted, the picture is not worth a plate and should be let alone. But water, when it can be aided by something else, so as to lead the eye into the picture, as in 'Our Picture' in last issue, readily lends itself to the production of fine results. With rivers there is not generally much trouble, as there are few cases in which some portions of the banks and overhanging vegetation cannot be effectively utilised. Much more difficult is the picture on the opposite side of a lake or even a pool, if it should extend the whole length of the base line; although even that may be overcome by the judicious employment of a boat or two, or even a few planks fastened together and loaded with brush and planks culled from the banks. Reflections, too, may be made to do good work, but only in the hands of a master, as they are extremely dangerous, and to a large number of photographers a great temptation. No doubt, to the untrained eye, a sheet of still water on the surface of which is reflected the surrounding landscape, perfect to the most minute detail, and brilliant as the landscape itself, is a thing of beauty on which it never tires of gazing, and if I may judge from the number of pictures of such a scene that are included in the slides contributed to the exchange, and that are made by both amateurs and professionals, the temptation to photograph them seems to be irresistible; but to the trained artist, although the actual scene may attract his attention and charm his eye, the pictorial representation of it is an abomination. In such a case, it is absolutely essential that the horizon line be kept low, so that the foreground may be limited, and the detail of the reflection broken up by disturbing the

"Amateur Photographer," 1891, Lantern Slide Competition (Fourth Year).—Prizes: Gold, Silver, and Bronze Medals, and Certificates in each class. Competitors to enter only one class; every competitor to contribute ten slides, and a "Lantern Slide Portrait" of him or her self.

CLASS I.—Landscape, Sea Pieces, and River Scenery, with or without figures.

CLASS II.—Portraiture and Figure Studies to include in-door or out-door pictures.

CLASS III.—Architecture, Interior or Exterior.

CLASS IV.—The Fine Arts, which may include copies of Pictures, Engravings, Sculpture, Art Metal Work, China, Bric-a-Brac, etc.

NOTE.—Every Competitor must send descriptive Notes.

Past prize-winners will be awarded "Niece" or progressive medals, should they win a medal of the same value as that which they have been awarded in past Lantern Slide Competitions.

All slides must be received on or before the 30th September, 1891.

RULES, CONDITIONS, and ENTRY FORMS will be forwarded on receipt of stamped addressed envelope. The application should be endorsed, "LANTERN SLIDE COMPETITION," Editor, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C."

surface, either by casting stones into the water or otherwise. In this way the necessary masses of light and shade may be obtained without the damaging repetition which renders the 'beautiful reflections' so offensive."

Anthony's Photographic Bulletin gives the following:—"Herr Luters, of Austria, has lately published a formula for burning in colours on porcelain, which consists in laying a fairly thick coating of porphyry glazing, mixed with gum arabic, on a specially prepared paper, which, about twelve hours before use, is quickly drawn through a bath of ferrous oxalate and dried. It is then placed in contact with the negatives to be printed and exposed to sunlight, dipped in distilled water and placed in contact with the porcelain to dry and the paper stripped off, leaving the design, which is then burnt in."

Invention says:—"A patent has just been taken out at Cleveland, U.S.A., to reproduce a photograph at a distance by means of electricity. The photographic negative must be in relief about the thousandth part of an inch. By means of a tracer a perfect engraving is made in wax or metal at the other end of the line in three or four hours. When the transmitter passes over a light portion of the subject, the receivers cause a depression or maximum cut to be made upon the surfaces, and when the dark portion of a subject is under the transmitter the receivers make no record. Half-tones are satisfactorily reproduced, and the result is an engraving from which a stereotype can be made for printing with on an ordinary press. The invention is said to be suitable for making embossing dies, etc., automatically from a pattern, but we should imagine that, as the depressions are infinitesimally small, this statement is open to question.

Exhibitions.

AMATEUR PHOTOGRAPHIC ASSOCIATION.

A COUNCIL meeting, for the award of the prizes, was held, July 1st, at 58, Pall Mall, S.W., the Right Hon. the Earl of Rosse in the chair.

The Secretary, Mr. A. J. Melhuish, laid before the Council the pictures for the current year. They had been classified by Mr. Glaisher into classes 1, 2, 3, 4 and 5, and the classification, subject to two alterations, was approved by the Council.

Class 1 contains 130 pictures, contributed as follows: C. Stephens, 3; General Kaye, 4; R. Murray, 10; F. S. Schwabe, 3; Major Board, 1; R. O. Milne, 9; R. Leventhorpe, 7; W. Gaddum, 8; Miss J. Wilson, 2; Mrs. R. Benson, 2; Dr. Drew, 4; Surg.-Major Foster, 7; F. G. Smart, 10; the Vicomte de Condeixa, 6; H. O. Hutchinson, 11; F. Wrigley, 4; Miss Mahon, 8; Arthur R. Dresser, 17; H. Emmons, 3; F. Griffith, 8; W. Dumergne, 8; and M. de Dechy, 4.

The pictures were considered by the Council to be the best ever contributed to the Society. Some by Mr. Dresser were pronounced to be altogether a step in advance. The interiors at Fontainebleau, by the Vicomte de Condeixa, were also greatly admired. A sunset picture, by Mr. Smart, was considered quite a work of art. There are also some fine tree studies by Mr. Milne.

The following prizes were awarded:—Mr. Arthur R. Dresser, first prize, Nos. 1, 3, 5, 8, 11, and 12, a large silver goblet; the Vicomte de Condeixa, second prize, Nos. 2, 4, 5, and 6, a silver goblet; Mr. F. G. Smart, Nos. 27, 31, and 30, a silver goblet; Mr. R. O. Milne, No. 7, a large album, handsomely bound; Mr. R. Leventhorpe, No. 207, a handsome portrait album; Mr. H. O. Hutchinson, Nos. 2, 11, and 13, an oil painting in frame by McEvoy; Mr. W. Gaddum, Nos. 61, 130, and 162, a picture in frame; Surg.-Major Foster, Nos. 2 and 6, a large silver medal; Miss Mahon, a handsome portrait album; Dr. Drew, a handsome portrait album; Mr. F. Griffith, No. 3, a medal; Mr. R. Murray, No. 273, a handsome portrait album; and to Mr. W. Dumergne, No. 7, a medal.

The following members had been previously elected:—Messrs. A. Craigie, E. F. Sandeman, Arthur R. Dresser, Francis Gosset (Deputy Sergeant-at-Arms), and Hamilton Emmons.

Southsea.—On the 4th inst., Captain Thomas Lamb, President, gave a very interesting description of a "Trip on the Continent," illustrated by numerous slides, which included views of Jersey, St. Michael's Mount, Dinan-Austrian Alps, Venice, etc. The room was filled with members and their friends, ladies having been invited.

Reviews.

Colloquial German for Travellers. By H. Swan. Published by D. Nutt, 270 and 271, Strand, W.C. Price 1s. "Phonetic" Series, No. 2.

We have carefully gone through this little work, and can thoroughly recommend it to all those desirous of obtaining as close a guide to the true pronunciation of the German language as it is possible to get without oral instruction. We placed the book in the hands of a friend totally ignorant of German, and were astonished to hear how correctly the difficult guttural sounds were pronounced at sight. We regret to note, however, that the author has omitted from this work an appendix for photographers, which would make the book still more useful to our readers. The arrangement of the book is good, and the phrases are just those a traveller requires, and a summary of the different routes with fares and valuable information as to lodgings and meals is also included.

Quarterly Examinations in Photography.

Question 37.—Give a process for obtaining a negative directly from a negative.

ANSWER.—A gelatine dry-plate is used, in which the gelatine bears a small proportion to amount of silver in the emulsion. The exposure given is double that required to produce a positive. Development is carried out with ferrous oxalate, and carried on till the plate is black to the back. The developer is washed away, and the plate immersed in the following mixture:—

Potassium bichromate	...	...	...	...	1 part
Nitric acid	...	...	...	...	5 parts
Water	...	...	...	...	100 parts

After this has acted on the whole thickness of the film, the plate is exposed to daylight, washed in very diluted ammonia, and again developed.

Thus the original image is destroyed and the unreduced silver produces the secondary one.

Colonel Waterhouse has discovered that the addition of alcoholic thio carbonides to eikongen developer will effect a renewal of the image; but I have not been able to find details of his plan.

Question 38.—What are the probable causes of blisters in prints? and state the remedies.

ANSWER.—One theory is that a saline solution gets shut in behind the albumen, and that, when this comes into contact with plain water, the greater density of the imprisoned fluid causes the albumen to leave the paper and a blister to be formed.

A more probable theory is one put forth by Mr. H. Sherman in the *British Journal* almanac for 1888. According to this theory, blisters are caused by carbonic acid gas, which is generated in albumen prints by chemical action taking place in the fixing bath.

Blisters will be prevented by allowing the gas to escape through the pores of the paper. The best method of doing this is to add salt to the first water into which the prints go after coming out of the toning bath.

Question 39.—Describe the process of photogravure.

ANSWER.—The best and simplest form of photogravure is that of Obernetter's. The metallic silver image on a gelatine negative is converted by chemical means into a chloride of silver positive. The film is then stripped from the glass and laid upon a perfectly smooth copper plate. This is immersed in a galvanic cell, kept in action by two small dynamo machines. The voltaic current decomposes the silver chloride, the chlorine combining with the copper and etching it to a greater or less depth, according to the thickness of the deposit of chloride. The result is a beautifully delicate intaglio plate.

The great advantages of this process over the ordinary processes are absence of all necessity for the frequent recopying of the picture, in each step of which something is probably lost in sharpness and delicacy; the certainty of the results, and the rapidity with which a plate can be produced.

How to Remove Ink Spots.—Ink spots on paper can be easily and safely removed by applying a mixture of equal parts of oxalic and citric acid in the form of powder. The spots are sprinkled with this, and the powder moistened by means of a piece of white paper that has been rolled and dipped in water. For this purpose a small brush or a piece of wool may also be used. After the ink has disappeared the spot is wiped off with a moist sponge and dried with blotting paper.

Societies' Meetings.

Cambridge.—The first quarterly competition was held on the 23rd ult. Mr. W. H. Hayles won a certificate for lantern slides, and Mr. P. Salmon for figure study. There was a good attendance of members, many of the exhibits being of praiseworthy character.

Croydon Micro.—A ordinary meeting was held on the 4th inst., when a numerous assortment of negatives and prints was exhibited by members taken during the recent excursions. The half-day excursion to Erith and Greenhithe, on July 25th, has been altered to Kingston-on-Thames.

East London.—A general meeting was held on the 6th inst., Mr. C. Tylee in the chair. Dr. F. J. Warwick was elected President, and Messrs. E. Stone, C. Tylee, and H. G. Wallis, Vice-Presidents. The Secretary announced the Committee had decided to offer prizes for competition at the exhibition to be held in October in the following classes:—Class A, Landscape and Marine Views; Class B, Groups and Portraits; Class C, Instantaneous Work; Class D, Architecture. A good show of pictures and negatives were on view. The Society is making good progress. Outings were fixed for Saturday, July 11th, Chingford, G.E.R.; and Thursday, July 23rd, Regent's Park. Particulars and forms of membership can be had on application to the Hon. Secretary, Mr. Wilkinson, 21, Ferncliffe Road, Dalston, N.E. Meeting nights, first and third Mondays in the month, at 333, Old Street, E.C.

Faversham.—The second excursion of the season took place on the 30th ult., when a visit was paid to Canterbury, where plenty to interest and amuse was found. Through the kindness of the Dean the visitors were allowed to make some exposures in the Cathedral, and a dark room which Mr. Jackman had arranged for their convenience was much appreciated.

Glenalmond.—The fortnightly meeting was held on the 4th inst., the President took the chair. A motion was brought forward by Mr. Kitto that no photographic paper belonging to the Club could be taken out of the library without the permission of the librarian. The motion was unanimously carried. The date of the sending in of the competition photographs was altered to Saturday, July 18th, as members will not have time to prepare their photographs by July 11th, the weather having been very bad for photography during the past week. After the business had been settled, a "Hat-night" took place, in which twelve members took part, speaking on various subjects. There was a large show of photographs, etc. Some opals and aristotype prints were shown by Messrs. Maxwell, and some bromides by Messrs. De Putrons and Johnstone, after examination of which the meeting adjourned.

Halifax Camera Club.—On Monday, the 29th June, a meeting was held to receive the report of the Provisional Committee. There was a full attendance of members. The report was adopted, and it was resolved to take for the club the premises recently occupied by Mr. Gregson as a studio. At the end of two hours, spent mainly in framing rules, the meeting was adjourned to Monday, the 6th instant; the adjourned meeting being held at the new club premises. The members then present expressed themselves highly pleased with the club-rooms, and, having adopted the rules framed at the previous meeting, proceeded to the choice of officers for the ensuing year, when the following executive was elected: E. J. Smith, President; Thomas Illingworth, Vice-President; J. I. Learoyd, Hon. Treasurer; Edgar Booth, 12, Crossley Street, Hon. Secretary. Committee:—Messrs. W. Wainhouse, Dr. Leech, E. Finlinson, E. J. Walker, W. H. Ostler. The furnishing of the studio, etc., will be proceeded with at once, and the formal opening of the club has been fixed for Tuesday evening, August 4th. The number of members has already reached the satisfactory total of 58.

Herefordshire.—A ramble in connection with this Society took place on the 2nd inst. at Mansell Lacey, Foxley, and Brinsop. The weather was rather unpropitious at first, but it cleared up later. A few members took advantage of it, and left by the 12.40 p.m. train and proceeded to Mansell Lacey, where several picturesque scenes were taken, including the old pigeon houses and half-timbered cottages, with the rustic footbridge in the foreground, all of which afforded very good subjects for the camera. The members then visited Foxley and Brinsop, and returned to Hereford after a very enjoyable outing. Mr. J. Parker, Hon. Secretary, was awarded the prize in the monthly competition open to members of the Society, the subject being "Landscape."

Holborn.—On the 3rd inst., Mr. Rafaet, in the chair. Mr. Golding read a paper on the "Impossibilities of Photography," which naturally opened the way to a most interesting discussion on the various subjects covered by the title. Next Saturday, garden party at the Roebuck, Buckhurst Hill.

Lewisham.—On the 3rd inst., Mr. A. H. Miles, Vice-President, in the chair, a paper was read by Mr. E. Eastwood on "Exposure." In opening, he said that though several well-known workers condemned all extraneous aids to exposure, he recommended ordinary amateurs to use some kind of table or exposure meter, giving prefer-

ence to those showing the actinic power of the light, and explained how to make an actinometer for 2d., which he said would answer as well as the most expensive, though, for those who did not want too much calculation, he recommended the "Watkin" exposure meter, which he had been using himself. He passed round several negatives and prints obtained through its aid, one negative in particular being a surprise to many members, who knew the place it was taken, the exposure being a good deal more than they would have given, though the result showed that it was not very far wrong. On July 17th there will be a discussion on "Hand Cameras," opened by Mr. H. Howell, when all members possessing hand cameras are requested to bring them to the meeting.

Putney.—The second monthly summer meeting was held on the 3rd inst., Mr. W. H. Congreve in the chair. Prints were shown from negatives of the Burnham Beeches excursion, which was fairly well attended. Twelve entries were announced for the summer competition, a series of four prints. In Mr. Macdona's absence, the Secretary, after reading Mr. H. S. Starnes' reply to an article in *Photography* (June 11th) on "Lantern-Slide Making by a Printing-out Albumen Process," by Mr. Macdona, showed a slide produced in this way. A discussion on the subject then took place. Next excursion, July 11th, Dorking.

Southport.—On the 1st inst. the usual monthly social was held, and the prizes gained at the exhibition on May 30th were presented. Numerous photographic novelties were exhibited by Mr. Cave, Nevill Street, and Mr. Franks, Lord Street, and discussions were raised on various points, and a very pleasant evening spent. Next Wednesday evening, Mr. De Pree will give a demonstration on bromide printing.

Southsea.—The ordinary monthly meeting was held on the 1st inst., Lieut. Cobb, Vice-President, presiding, and a special meeting was called on Saturday night, on which occasion the President, Capt. Lamb, entertained the members and their friends to an exhibition of lantern slides, illustrating Continental life and scenery. The programme went off most successfully, the following slides being especially appreciated: "St. Mark's, Venice," and the "Pigeons Feeding in the Square," "Norman Architecture," "Tombs in Foreign Cathedrals," "Views of Jersey," "Landscape and Views of Old Jersey Cottages," "Landscape in Jersey in both summer and winter." Tyrol landscapes depicting magnificent mountain scenery.

Sydenham.—The second summer excursion of the above club took place on the 4th inst., when a party having travelled to Elmers End Station proceeded, under the direction of Mr. Zimmer, to Eden Park, where a number of landscape, hay-making, and figure studies were taken. Whole, half, and quarter plate hand, and lantern-slide cameras were represented, so that a good varied selection of photographs should be shown at the ensuing meeting. After a very pleasant afternoon, an adjournment was made to a neighbouring hotel, where tea was partaken of, and the party then separated, well pleased with their afternoon's work.

Tunbridge Wells.—The sixtieth ordinary meeting of the above association was held at the Mechanics' Institute on the 2nd inst., Mr. B. Whitrow in the chair. Mr. W. R. Ruffell was duly elected a member. The Hon. Secretary stated that the Editor of the *AMATEUR PHOTOGRAPHER* had kindly offered to send down each week a free copy of that paper, which he had written and thanked him for. Prints were handed round, and also stereoscopic transparencies of the views taken on the excursion to Chiddingstone on the 17th ult., after which a general discussion ensued as to the particular qualities of plates and printing papers. An enjoyable evening was brought to a close with a vote of thanks to the chairman.

The Phot. Soc.—At the monthly technical meeting on the 23rd ult., Mr. W. Bedford in the chair, the first subject for discussion was "Orthochromatic Photography," which was dealt with at considerable length, in the course of which the Chairman said that Dr. Vogel propounded a theory that dyes sensitise the haloid silver salts for the rays they absorbed, but it was necessary to make an allowance for a shifting of the absorption band towards the red end of the spectrum in accordance with Kundt's law. Orthochromatic plates could be prepared by adding a small proportion of these dyes to the emulsion, preferably by adding the dye to the soluble bromide solution, when the dye will be taken up as the silver bromide is precipitated. Many other dyes are suitable, and he would recommend anyone experimenting in this direction to study Dr. Vogel's researches; there was also a very laborious paper by Dr. Acworth, in the last number of the *Photographic Quarterly*, that would be of immense value to investigators in this direction. Mr. J. R. Gotz pointed out that with orthochromatic plates it was possible to take pictures earlier in the morning and later in the evening than with ordinary plates. Colonel J. Waterhouse said that he had brought with him some of his latest plates, which were better than the earlier ones sent to the Society. Of course, the process could not yet be considered perfect, but from the specimens before them there was little doubt that it could be made a practical success, but it would take time to work out. He would first show a series of direct positives of a line subject, the copper plate engraved from it, and an

untouched proof from the copper. There were two plates of this subject, and they were about the best he had done, they were on Wratten's ordinary plates, quite fresh from England. They were both developed with the eikonogen developer, containing a very small proportion of Prof. Reynolds' compound salt of thio-carbamide and ammonium bromide, which worked best of all the thio-carbamides he had yet tried. It could be easily prepared from thio-carbamide, and the latter salt could be purchased readily prepared, though he had had to prepare it for himself from sulphocyanide of ammonium, which was a troublesome process, as it was difficult to get the salt quite pure. The plate with the red tone was developed with an eikonogen developer containing:—

Eikonogen	...	...	...	...	1 part
Sodium sulphite	...	...	...	...	2 "
Lithium carbonate	...	...	...	...	1 "
Water	...	...	...	...	100 "

with about five drops to the ounce of a strong alcoholic solution of the compound tetra-thio-carbamide. The black one was developed with a developer containing about $\frac{1}{2}$ per cent. of Fahlberg's saccharine, which he found had the property of producing this change of colour. The copper plate was engraved from the ordinary plate, and had not been retouched, but merely cleaned. The proof was sharp and clear. This series would show that so far the process was practical; but, as he had said, it was not perfect. The specimens exhibited were only a few of some hundreds of plates he had worked at. By far the best results had been obtained with the compound of thio-carbamide and ammonium bromide. Two other plates of a half-toned subject taken in the same way showed the same difference of colour with the plain developer and with the saccharine developer. There were two landscapes, which were also very clear, and both instantaneous exposures. The greatest difficulty of the process was in landscape work, to get the sky and foreground together. The image first developed as a negative, and gradually changed into a positive; but in parts which had received too much exposure the reversal was not complete. Copying work was not so difficult, the contrasts not being so strong. Mr. W. E. Debenham asked what was the duration of the exposure. Colonel Waterhouse said he generally gave a slow snap or quick off-and-on exposure, according to the lens and stop he was using. He had not a time shutter; he had always used Wratten's ordinary plates, and for an ordinary exposure, at the longest, he would have to give two seconds for a well-lighted view, but for the reversal, about a tenth of a second might be enough; but he had not compared exposures very closely. In nearly all the plates

he had taken there was more or less veil over the plate after development, which it was necessary to clear away. He had generally used for this purpose a solution of bromide of copper at two or three per cent., applied either before or after fixing. There was one portrait which, though taken in a bad light, would show that something could be done in that way too. The great difficulty he had experienced in working out the process was the want of suitable plates

Spurrier's Improved Patent "Takeabout."—This is a very light and convenient form of knapsack, weighing only ten ounces, and made very compactly, and yet will carry as much as a tourist wants. The price in the first quality is only 8s. 6d.

Messrs. Spiers and Pond, as will be seen by our advertisement columns, announce a sale of photographic goods, to commence on the 13th inst. and continue to the end of the month. As the goods of all the leading makers are there sold, it will be worth while inspecting them during the fortnight of the sale.

The "Liverpool Daily Post" says: "The Amateur Photographer's Annual for 1891," edited and compiled by the staff of the AMATEUR PHOTOGRAPHER (London: Hazell, Watson, and Viney, Ltd.), is a handbook in which all the operations of the photographer are presented in such a simplified form that even the case-hardened reviewer is almost tempted to invest in a camera and the other et ceteras and try his hand at the business."

"Amateur Photographer," "Holidays with the Camera," Competition (Second Year).—Prizes: Gold, Silver, and Bronze Medals, and Certificates with special prizes of "Niepce" or progressive medals for past prize-winners. In all, twelve prizes will be placed at the disposal of the judges.

SUBJECTS.—All photographs are eligible that have been taken during the "Holidays," but must be landscape or sea pieces, with or without figures, views of towns, photographs of cathedrals, churches, public buildings, etc., but not *portraiture, figure study* of pictures which could be classed as "Photography at Home."

NUMBER.—Not more than twelve, or less than six prints are to be sent in. They must all be mounted. They will be judged upon their merits as a whole.

DESCRIPTIVE NOTES.—Each competitor must contribute a short account of his holiday, to be not less than 500 or more than 1,000 words.

DATE.—All photographs must be received on or before the 31st of December, 1891.

RULES, CONDITIONS, and ENTRY FORMS will be forwarded on receipt of stamped addressed envelope. The application should be addressed, "HOLIDAYS WITH THE CAMERA," Editor, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C.

To Correspondents.

All communications for these columns are to be addressed to **The Editor, "Amateur Photographer," 1, Creed Lane, Ludgate Hill, London, E.C.**

RULES.

1. Write clearly and distinctly on one side of the paper only.

2. Write each Query or Answer on a separate sheet of paper.

3. Write the name and address legibly on the back of each communication, and sign all Queries and Answers with name or *nom de plume*.

4. All matters for these columns MUST be received by TUESDAY MORNING'S POST.

5. The Editor does not undertake to answer questions by post.

6. In answering Queries, correspondents are requested to mention, in every instance, the number and full title of the query referred to.

QUERIES.

4398. **Lamp Shade, etc.**—Can any one give me information on the following points? 1. Am thinking of making a porcelain lamp shade, according to the instruction given in the "American Annual of Photography," page 36. I want to know (1) where I can get the porcelain cut into particular shapes; (2) the best method of vignetizing the views on each piece; (3) the best way of mounting the whole; (4) in the case of failure, shall I be able to remove the film without injuring the plate?—FIALMA.

4399. **Film Hand-Camera.**—Is the Kodak the best for films? Are there good lenses in the larger sizes? What is their full working aperture? Is the shutter adjustable for different speeds?—ONICH.

4400. **Retouching.**—Would some brother amateur kindly give me the composition of a retouching medium? Also, will Hardtmuth's cedar pencils, as

used for drawing purposes, answer for retouching?—FALCON.

4401. **Toning.**—Will someone kindly give me a good toning bath for Blackfriars Seutising Co.'s (Spicer's) single albumenised paper, and how to stop toning bath from depositing its gold?—AERIGINAL.

4402. **Development.**—Will someone kindly tell me how to develop a xxx Paget plate that has received 15 minutes' exposure with f/64 on a thickly-wooded lane, sun shining good light.—AERIGINAL.

4403. **Development.**—How should I develop the following: xxx Paget plate, stop f/11, bright light, snap-shot on a dog? Any hints will much oblige.—AERIGINAL.

4404. **Exposure.**—What would be the correct exposure for a portrait taken out of doors, natural background of leaves, xxx Paget plate, f/11 stop, sun shining brightly, but exposure made in the shade? Is a lens of longer focal length better for portrait work? Any hints will much oblige.—AERIGINAL.

4405. **Westminster Abbey.**—I shall be much obliged to any reader of the AMATEUR PHOTOGRAPHER who can inform me if any person is allowed, at an early hour in the morning, to take photographs of the following principal buildings, viz., Westminster Abbey, Houses of Parliament, St. Paul's, Buckingham Palace, Bank, British Museum, Albert Hall, Guildhall, Tower of London, and any other buildings there may be in London which are worthy of a plate?—W. H. ELLIS.

4406. **Lens.**—When the front combination is removed from a R. rectilinear lens, are the stops in the proper position for use as a landscape lens? Can such a lens give really first-rate pictures, and is it necessary to use smaller stops than would be used with one made exclusively for landscape work?—A. W. D.

4407. **Changing Bag.**—Would like to know where whole-plate or 10 by 8 changing bag may be hired for fortnight? Will "Ponto" and "Lover of Wales" accept my best thanks for information re North Wales tour; also, would latter kindly give me name and address of publishers of "Gossipping Guide to Wales"?—GARSTON.

4408. **Fogged Plate.**—I am much obliged to "Moonen" for his reply to my query, but he answers me like a book on photography. I have a good collection of these works, and I find they all give plenty of details as to the causes of fogging, but they carefully avoid any suggestions as to the remedy. It may be that there is no remedy, and if so, why does not one of those scientific gentlemen who continually exhibit their skill in chemistry by inventing marvellously complicated developers, turn his attention to this useful

matter? It strikes me that most amateurs get a good crop of fogs of one kind or another, and what we want to know is how to remedy the evil. I will put three cases, which must have occurred to everyone: 1. plate fogged before exposure, during exposure, and after exposure. I say nothing about chemical fogs caused by excesses of ammonia or other ingredients of the developer, but simply ask how can fog caused by light be removed, without destroying the picture on the plate?—GRINCO.

4409. **Yorkshire.**—Wishing to take my camera with me to Yorkshire, I should feel obliged by any information as to the prettiest places to stay at, also whether permission is necessary for photographing at Fountains, Rievaulx, and Bolton Abbeys, and, if so, how is it to be obtained?—SUTTON.

4410. **Stand for Hand-Camera.**—What is the best? I have tried Turnbull's, but found the outside case a nuisance. I have also tried the Facile. But when put on the screw, the camera is too low, and it is difficult to change the direction without moving the entire stand; and when put on the flat top, the camera is not rigid. Is there a good walking-stick stand to be had, or, rather, a good stand not much bigger than a walking-stick?—SUTTON.

4411. **Ruby Varnish.**—I have tried to varnish electric incandescent lamps with Thomas's ruby liquid, but with no success. Can any reader help me with suggestions, especially as to cleaning glass?—D. S. B.

4412. **Mounting Jacoby's Chloride Emulsion Paper.**—How should this paper be mounted, so as to preserve the high glaze obtained by squeegeeing on vulcanite or glass? I find by using india-rubber mountant the prints are more or less "cockled."—HALSTEAD.

4413. **Paget Prize Plates.**—Will a constant user of the xxx and xxxxxx plates kindly tell me what developer he has found most suitable for them, giving the formula of same, and time required to complete development of a properly-exposed plate; also, if with these plates he has found after development a light shadow running down either end of plate, as if it had been effected by packing pads?—ELGIN.

4414. **Broken Opaline.**—I have an opaline photograph, the glass of which is all smashed. Can you tell me any way of getting the photograph off the glass without injury? I wish to mount it in a scrap book. I have tried soaking it for three days in water, but it seems as fast on the glass as ever.—RING.

4415. **Lens.**—I have a Wray 5 by 4 R. R. lens, which I use for quarter-plate work. Can anyone tell me whether either the back or front combination alone could be used as a long-focus lens, or would it be best

to use an ordinary long-focus lens for long-distance views?—**ANXIOUS.**

4856. **Celluloid Films.**—I have developed some England's celluloid films with Hinton's bi-quinol, and the resulting negatives are stained a dark brown and show much green fog, and on viewing the backs of the negatives by reflected light, nearly a positive is seen. Can anyone tell me the cause of this, and how I can remove the objectionable stain?—**Puzzled.**

4857. **York, Peterborough, and Durham.**—Hope to take holiday in August, and propose "doing" York, Peterborough, and Durham. Any hints as to photographing the cathedrals and where to obtain permission would be acceptable. Also intend stopping at Whitby. Is this a good place for fishing-boat studies, and for landscapes round?—**Docror.**

4858. **Shutter.**—Will any one kindly inform me which is the cheapest and best shutter for all-round work? I do not want to give more than 7s. 6d. for it.—**NORDON.**

4859. **Lynton.**—Information will be much esteemed respecting Lynton and Lynmouth, North Devon. A few names and addresses of one or two thoroughly good boarding houses, where one may find comfort and good living, with moderate charges, in Lynmouth much preferred?—**R. F. DIXON.**

ANSWERS.

4727. **Mounting Solution.**—Probably this is an alcoholic and aqueous solution of gelatine, in which case equal parts of methylated spirit and water would answer.—**OSIRIS.**

4729. **Eastman's Films.**—You cannot do better than use the combined Eikonogen and hydroquinone formula, given a month or two back in a leader on "Home Portraits." I have used this with excellent results on films.—**OSIRIS.**

4738. **Dark Room.**—Davenport's dark-room is perfectly light, easily put together, and the cheapest thing of the kind ever put on the market. I have had one in use for the last month.—**OSIRIS.**

4740. **Camera on Bicycle.**—There is no difficulty in carrying camera as you suggest, provided you pack it well—at least, that is my experience.—**CYCLIST.**

4746. **Belge Lamp.**—Almost any good ironmonger, or Benetlinks, Cheapside, E.C., would get one for you. Try a Welsbach burner instead of Bray's.—**OSIRIS.**

4750. **Bellows, Cracking off.**—Recoat with a pliable varnish, such as shellac, mastic, and Venice turpentine or Canada balsam.—**OSIRIS.**

4767. **Orthochromatic Colour Screens.**—Gutz, 19, Buckingham Street, Strand, will supply aurantia, or any chemist would supply picric acid, which is quite as suitable.—**OSIRIS.**

4769. **Reproduction.**—Your only plan will be to make grained blocks. See Wilkinson's "Colotype Photo-Engraving," etc., price 5s.—**OSIRIS.**

4770. **Enlarging.**—In answer to Selrah's query, as described in the AMATEUR PHOTOGRAPHER of June 12th, I should think you could enlarge very well with your camera as stated. I give you a hint of how I have enlarged with my half-plate camera for some time (by daylight only), and have had some very good results, viz., get a decent sized box, one about 4 ins. longer than the camera itself when extended its full length; the height or depth of the box will have to be left with you, according to the height of the camera. Measure the height of your camera when standing on a table without its legs, and have a box with sides and ends 1 in. higher than the camera. For instance, say the camera when extended its full length is 2 ft. 6 ins. long, and when standing on a table without its legs affixed is 9 ins. high, the size of the box, ought to be 2 ft. 10 ins. long and 10 ins. deep, both sides and ends. When you are sure you have a good box stand its full length the camera (with lens) in the box, and mark with a pencil the exact size of the lens (not the cap). On one of the ends of the box, after making this perfect, remove the camera from the box, and make a hole the exact size of the ring which you made with pencil, then again put your camera in the box and push the lens as far through the hole you have just made as possible. The back of the camera: Get a piece of white paper and place it at an angle of 45 degs. with the back of the camera, so as it will reflect light on to the negative when enlarging. When you have the foregoing instructions to your knowledge correct, the next thing required will be a dark-room in which you wish to enlarge. If you have not a dark-room, it can easily be made as follows: Put down the window-blind and hang from the top of the window a dark cloth large enough to cover the whole of the window, and thick enough to stop all light from coming in; then lift up this cloth and open the window, and put the box with camera complete (and a dark slide with both shutters up, and the negative from which you wish to enlarge film facing the lens) half way out of the window, then shut the window down so as no light is to be seen in the room except the cap for lens. If you are so fortunate as to get your lens so far through as will allow you space for your cap, do so; but if not, get a piece of thick cardboard about 6 ins. square and cover it over with some black cloth, and then fix this in front of the box about 2 ins. above the lens, and fix one or two pieces of lead so as the flap or cap will when let down remain so. When you are so far complete get a piece of white paper about 12 ins. square and lift the flap or cap, and focus according to the size up to which

you wish to enlarge, remembering at the same time the larger you enlarge the more expense it will be to you, more developer, larger dishes, larger sheets of bromide paper, and more everything. Hoping you will be able to give this little experiment a try, and be successful.—**W. H. ELLIS.**

4779. **Angle of Focus.**—You probably mean angle of view. Supposing the lens to have $8\frac{1}{2}$ in. focal length, the angle included is 42 degrees; if 8 in., then it is 44½ degrees.—**OSIRIS.**

4794. **Snap-Shot Developer.**—The fumes evolved are sulphurous anhydride, SO₂.—**OSIRIS.**

4802. **Shutter.**—The Norden flap shutter is free from vibration, but does not give a very high speed.—**OSIRIS.**

4809. **Wheeler's Exposure Tables.**—The expression of the rapidity of plates as so many times is, as "Gringo" says, a clumsy method, and, at best, is but a very rough guide. When dry plates were first introduced, their rapidity was compared with that of the older wet plate, and this was stated as so many times the rapidity of wet plates, hence the expression ten times, etc. The sensitometer numbers are a better method of expressing the rapidity, but even these are misleading unless calculated from actual trial of the batch of emulsion, for no two batches of emulsion are exactly alike, even by the same maker. I use Wheeler's exposure tables, and consider them excellent as a guide to correct exposure. If of ordinary I call 30 times, and Edwards' Isochromatic I call 60 times, when using the tables.—**FOVLE.**

4815. **Ripon.**—All the places mentioned in my answer to No. 4823 this week are within reach of Ripon. Fountains Abbey is considered the finest in England.—**PEN.**

4815. **Ripon.**—Fountains Abbey is quite near Ripon, and "Amateur" will find plenty of subjects both on the ruins and in the grounds. The agent's house at the entrance to the abbey grounds is worth doing.—**L. E. IT.**

4816. **Rapidity.**—If of ordinary plates are sensitometer No. 18. Mr. Wall, in the "Dictionary of Photography," gives "flexible films" sensitometer No. 15-17. Say Eastman's are 17; then where you gave an If of ordinary 2 seconds, you would have to give the film 2½ seconds.—**PEN.**

4817. **Quick Plates.**—If of white label plates will give you excellent results, both for instantaneous and time exposures.—**PEN.**

4818. **Camera Bellows.**—I have never heard of such a machine, but there are simple and clear instructions how to make camera bellows in the "British Journal Almanac" for this year.—**PEN.**

4819. **Films for Hand-Camera.**—Any hand-camera with which you use dark slides is suitable for exposing films, such as the Platinotype Company's "Key" camera, Messrs. Sharp and Hitchmough's "Universal," etc.—**PEN.**

4821. **Toning Bath.**—Enough carbonate of soda should be added, so that when tested with litmus paper there is no visible effect on either red or blue. An ounce of fresh stock solution added to the old bath would do equally well. Let me advise you, as you are a beginner, not to use your toning bath more than once.—**PEN.**

4823. **Ripon, Harrogate, and Leeds.**—If "J. W. E." will write me I can give him full particulars regarding Ripon and Harrogate. Address with Editor.—**J. H. H.**

4823. **Ripon, Harrogate, and Leeds.**—(1) Fountains Abbey, (2) Bolton Abbey and Woods, (3) Knaresborough Castle, etc., (4) Brimham Rocks, (5) Kirkstall Abbey, and plenty of pretty bits anywhere. Nos. 2 and 5 might be done in a day from Leeds. No. 1 from Ripon, 3 and 4 from Harrogate, but not in a day. Nos. 1 and 2 are the best.—**PEN.**

4823. **Ripon, Harrogate, and Leeds.**—"J. W. E." should try to spend just double the time he proposes at each place. At Ripon, he should take the Minster from S.E. (morning) with river Skell and bridge in foreground; Market Cross; then go to Studley Royal and Fountains Abbey (morning and afternoon). The latter place has a perfect wealth of subjects. In Harrogate, the Spa Grounds, Montpellier and Valley Gardens; the Stray and Bog Field provide numerous subjects; Birk Crag, a charming dale, lies about a mile out of the town; Knaresborough, with its ruined castle and river scenery, is within fifteen minutes by rail; Kirkstall Abbey (Leeds) should be visited in the afternoon; Roundhay Park (Leeds) contains pretty bits, the lakes, waterfall, etc. The Town Hall is a noble building, and "J. W. E." will find plenty of work for more than a three days' trip.—**H. T.**

4825. **Hand-Camera.**—The Eclipse camera, made by Shew, Newman Street, Oxford Street, has been used by me for one and a half years, and given perfect satisfaction, both in England and abroad. It has three double backs, a finder, excellent lens, plates or films 5 by 4. See the make before ordering any other.—**L. E. K.**

4825. **Hand-Camera.**—Messrs. Sharp and Hitchmough's 5 by 4 "Universal" is the very thing you want. It has all you require, with the exception of the extra finder, which, no doubt, could be added. The advantage of the above is that you have a thoroughly good camera, which can be taken out of its case for ordinary work, swing-back, focussing arrangement (decidedly preferable), reversing back, etc.—**PAN.**

4828. **Gloss on Prints.**—In answer to Query No. 4828, the best way to put gloss on prints is by using a burnisher. It can also be done by enamelling the

prints with collodion, or by using encaustic paste, or you can squeeze the prints on to an enamelled plate. Any of these will answer your purpose very well.—**W. H. ELLIS.**

4828. **Gloss on Prints.**—John Jackson would get a very high gloss on albumen prints in the following way: After the prints are washed, shake off the loose water and squeeze them face down on to a piece of glass which has previously been thoroughly cleaned and polished with French chalk. When the prints are dry they will peel off the glass with a very high gloss on them. This is about the cheapest way I know of.—**T. H. M.**

4828. **Gloss on Prints.**—

Pure white wax	500 gr.
Gun elemi	10 "
Benzole	4 drms.
Essence of lavender	6 "
Oil of spike	1 "

Melt the wax and elemi, add the benzole and other ingredients, and allow to cool, stirring frequently. Smear a little of the paste over face of print with tuft of cotton wool, and polish with a clean piece. The above is sold under the name of "encaustic paste."—**PEN.**

4830. **Lantern Slides.**—You will have to reduce from your whole plate negatives to plates $3\frac{1}{4}$ in. square by the aid of your camera. A very useful arrangement is Lancaster's "Mutum in Parvo" camera for the above, and also for enlarging. Pearson and Denham, of Leeds, also sell a capital reducing apparatus.—**PEN.**

4830. **Lantern Slides.**—The following is a convenient method, and one which needs no new apparatus. Fix the negative up at right angles to a firm table (placed near the window) and on it. Behind it place a piece of white cardboard at an angle of 45 degs. to the negative. Place the camera (used to take the negative) on the table and (after having drawn a square $3\frac{1}{4}$ by $3\frac{1}{4}$ on the ground-glass) focus the negative so that the part that you want on the "slide" comes within the square. Charge the dark slide with a lantern plate (held by a carrier), and expose the plate and develop as you would an ordinary negative.—**QUINTIN.**

4830. **Lantern Slides.**—Portions of a whole-plate negative can be made into lantern slides by copying, by contact, in a printing frame. For copying any larger portion, or the whole, the easiest way is to obtain a quarter-plate, or $3\frac{1}{4}$ by $3\frac{1}{4}$ camera. Place the negative to be copied in the dark slide, with the film side inwards, and the slides both drawn out. Keep out the whole-plate lens, but have a quarter or other short focus lens, such as a 4 in. or 6 in., in the smaller camera, directed to the negative and focus in the smaller camera. The bellows of the larger camera must be drawn out so as to cover the lens of the small camera; but a little side light, as long as it does not strike right into the lens, is of no consequence. The small camera must be capable of extending nearly twice as far as the equivalent focal distance of the lens it is intended to use. Use a moderate sized stop. Place the two cameras, with the centres in a line, on a board, and place them at such an angle that they may be directed to the sky without any trees, buildings, window-sashes, or other objects intervening. If they do, the lantern slide will be of uneven density. To find out the exposure, draw out the slide of the dark slide and make three exposures on the same plate. For example, draw it out one-third and expose for two minutes, cover up the negative that is being copied, so as to shut out the light, whilst you draw out the slide another third and expose now for one minute; lastly, draw out the slide the full distance, and expose for half a minute. You will now have made three different exposures on the same plate, of $\frac{2}{3}$, $\frac{1}{3}$, and $\frac{1}{6}$ minute each. This will give you, when developed, an idea of the proper exposure that should be given. If you have not, or cannot borrow a small camera, copy in the following manner: Get a wood box and cut out a hole in the bottom into which fix the negative. Place this on a board directed to the sky and use your camera for focussing the negative in the usual manner. A cloth must be placed from the box to the camera, so as to shade off all side light from the lens. Unless your camera is capable of long extension, or your lens is a short focus one, you will not succeed in getting it to rack out far enough. To copy by artificial light requires a large glass condenser, and a good deal of trouble, but the copying by daylight is tolerably easy. If you cannot point your camera to the sky, a large glass mirror may be placed at an angle, just opposite the negative that is being copied, so as to reflect the light from the sky above from a perpendicular to an horizontal direction.—**D. W. D.**

4831. **Focussing.**—You do not say what is the equivalent focus of your lens, so it is impossible to answer your question. Rack the camera backwards and forwards, and you will soon see the correct distance. To find focus of lens, focus a distant object sharply with full aperture and measure the distance from diaphragm to ground-glass. The number of inches is the equivalent focus of your lens. As to distance from subject and exposure, I can give you no help. I am afraid, as it so much depends on the nature of the subject—e.g., whether it is an open landscape or the family cat.—**PEN.**

4833. **Rhyl or Colwyn Bay.**—Make Colwyn Bay your centre; Rhyl is very flat and uninteresting. At Colwyn Bay you are within easy reach of Conway and its beautiful old castle, and Llandudno, which will furnish both amusement and "shots." Bettys-y-Coed will

require at least two days and a dozen plates. St. Asaph should be visited by rail, then walk back by Bodelwyddan to Abergele, train home. I leave "Phono" to find the mill and other "shots" at Colwyn, also the longer excursions by coach or rail. I think plates can now be had at Colwyn Bay, but it is safer to take them: say, a dozen red Ilford for the Swallow, Conway, and other waterfalls at Bettys, and yellows (two dozen) for the rest.—JAMES B. WILSON.

4833. Rhyl or Colwyn Bay.—Rhyl is much the larger place, and for children, donkeys, niggers, and such things on the sands, it is the better place for a photographer. There are several places of interest within a few miles, but it is not as central as Colwyn. Colwyn is a much quieter place to stay at, and the visitors are more select. The scenery here is superior. Near to, are Llandudno, Conway, Penmaenmawr, and other very interesting places, whilst Bettys-y-Coed can easily be reached. Steamers do not call at Colwyn, but from Llandudno, which is near, they run to Bangor, Menai Straits, and Liverpool, and occasionally to Blackpool, etc. Plates can be had at Rhyl. I doubt whether they can at Colwyn; but they can at Llandudno, I believe. I think Llandudno is preferable to either place.—A. W. D.

4835. Shutter.—Place's, Lancaster's "See-saw," "C. P. S. Simplex Drop Shutter," etc., all good ones, and about price.—PEN.

4837. Mounting Bromide Prints.—In answer to "J. P. H.," I think it is rather unusual to have gloss on bromide prints (unless there is a special make of bromide paper which is intended to have gloss on it). As a rule, bromide prints are intended to represent crayon drawings.—W. H. ELLIS.

4837. Mounting Bromide Prints.—You surely cannot mean bromide prints, which have no gloss at all hardly? Nor have I ever found them stick to anything. They do not want drying between blotting paper, but over a line or on plates of glass. I mount them with a cloth, using my ordinary gelatine mountant and tinted or other mounts.—PEN.

EDITORIAL.

SPECIAL NOTICE.—We are very pleased to find that replies in this column are so much appreciated, but we should be very grateful if those requiring advice would send their letters to us BEFORE TUESDAY MORNING'S POST if possible. The time occupied in replying in this column is very considerable, and owing to the often late receipt of letters, many matters have to be left over each week. This we much regret.—ED: AM: PHOT:

AUBURN.—(1) We know of nothing that will eradicate rain marks. We think your only plan will be to have the negative carefully retouched. If you will send us up a print showing the marks. (2) Yes, the plates you mention are the best for portrait work. (3) Provided you get a lens which will work at f/8 or which can be opened up to that aperture, the results are equal to, if not superior to, the doublets. (4) Quite possible in an elaborated form, but at present we have not decided.

H. J. SIBTHORPE.—Card sent on. Drop us a line if you do not get paper.

G. R. C.—We hardly think it possible to give you an article till the winter, but will try. Try the "hydro euk" formula on page 330, using one part of each solution and two parts of water. Greenish tones mean under-exposure. We prefer a lens of not less than 5 in. focus, preferably 5½ in. for general work.

PLATES. We are not certain whether there is an English agent now. Try Shew and Co., Newman Street, Oxford Street, or Lawley, Farringdon Road, E.C. The French agency is G. Thibaut fils, 35, Rue de Rome, Paris. They would tell you whether they had an English agent.

R. R. AMBLER.—We cannot criticise your portrait till after the judges' decision. Trust you will find your dark-room cooler. You might try lime or white washing, or painting the outside of your dark-room a light or white colour, so as to reflect and not absorb the heat so much.

A. G. NEGUS.—Thank you very much for the print of the little Duke, which is a very good portrait, we should say; the only improvement we can suggest would have been to have made him look at his lady love. The fault of not getting sharpness in your coach negative is the fault of the shutter not working quick enough; to obtain sharp images of the horses' legs requires a very quick shutter. If you will let us know the focus of your lens, the distance from coach, we will tell you the necessary speed of shutter or the distance from the coach you ought to be.

W. R. GOULD.—We are always pleased to be of use to any of our readers. Your friend is wrong—the work is yours entirely, and is quite eligible for competition; because you instruct somebody to take the cap off it does not make the work any the less yours, as you did all the subsequent operations. Considering the short time you have worked, the results are very good. The stain is probably due to dirty fingers, or else the print has lain in contact with metal of some kind whilst damp.

EVELYN.—Your apparatus is quite as good as you can get for the money. (1) Matt-surface paper from the Blackfriars Sensitising Company, Surrey Row, Blackfriars Road; or from Charles and Co., 21, Bedford Street, Strand; or matt-surface Obernetter paper

from Gotz, 19, Buckingham Street, Strand. (2) Print under green glass, and tone with:

Chloride of gold	1 gr.
Uranium nitrate	1 "
Dissolve in a little water and add some chalk, allow to stand two hours, shaking occasionally, and add to:	
Salt	15 gr.
Acetate of soda	15 "
Distilled water	8 oz.

Print deep, wash your prints well, then tone and wash in salt and water, and then fix in:

Hypo	2 oz.
Salt	1 "
Carbonate of soda	1 "
Water	20 "

(3) Use soda instead of ammonia. (4 and 5) You do not wash your prints sufficiently, and do not neutralise your gold. Try the above, and let us hear from you again if in trouble.

MELROSE.—By soaking in water you may, by very careful rubbing, get off the paper. Your negative will be horribly silver stained, which will spoil it for printing again unless removed.

ST. BERNARD.—We will look up prints and return. You cannot do better than try the plates you name; they are quite suitable for all-round work.

J. T. H.—You were a great deal too far off from the ship; the developer did not cover the plate evenly; the prints are not half printed enough. The negative is, if anything, over-exposed and fogged at the top. You could have got at least twice as near with superior results. Do you want negative back?

J. T. SMITH.—Your letter duly received and contents noted.

E. J. MULHOLLAND (Orange, N.S.W.).—Entry forms will be sent you by next week's mail. We should be delighted to have your work entered in our competitions, and are pleased to find that the "Amateur Photographers' Annual" is appreciated in New South Wales.

W. A. WATTS.—MS. to hand, which we shall be pleased to use a little later on.

MAURICE EGERTON.—The letter shall be sent to Mr. Meldon.

C. J. LEAPER.—Your letter noted; will write you.

MAJOR DOWDALL.—Entry forms will be sent next week.

QUEENST.—You will have an excellent camera in either 1 or 2, and in the improved form of No. 3; you should see them all and judge for yourself. We do not know much of the shutter, and cannot give you the highest and lowest speed.

W. F. MITCHELL.—We think you would find No. 6 answer your purpose quite as well as No. 2; it is a very handy size, well made, and will do all you require, except that it is not capable of adjustment for near objects. No. 4 is a good camera, and with it there is an arrangement for focussing.

Monthly Competition.

XXVI.—OUT OF DOOR FIGURE SUBJECTS, GROUPS, ETC.

Title of Photograph.	By whom sent.
Maud Persuading Brisk to take a Biscuit	G. A. Savage
A Group	R. Clapham
A Musical Trio	G. Giddings
Her Bright Smile Haunts me Still	R. Shaw
Tuning up	W. Chadwick
My Cousins	H. Brown
An Interesting Argument	A. J. Golding
Make me a Whip, Daddy	A. W. Ward
Group	J. Chamberlain
Companions	E. Griffith
Lady and Terriers	J. Russell
Childhood	H. Irving
Men Serve Tea To-day	J. H. Crabtree
A Tramp Abroad	E. Gauntlett
A Group	T. Davis
Sam Weller and the Pretty Housemaid	C. P. Smith
Off for the Week's Fishing	B. Brandreth
Laying Foundation, Albion Hospital	T. Chadwick
Pyrenees Village Life	L. J. Steele
Ferretting	A. James
Gathering Wild Flowers	J. Tims
Going Visiting on the North Sea	Mrs. Wilson
Pauline	F. K. Seaton
Cleaning the Line	E. G. Gallies
Nell and Grandfather	R. C. Macleod
On Mighty Project Bent Distributing the Sardines	S. T. Chang
Pitch Boilers	Miss Annesley
Scotch Fishermen	J. E. Lysaght
In the Woods	Miss Oliver
Thank you!	E. Winn
Jolly Companions	P. R. Salmon
In the Valle di Focce	Miss Davies
The Cloister	Rev. G. C. Hermon
Carting Shingle	Miss Watson
	W. J. Geddins

Picnic Party	G. L. Snowball
Old Lady, aged 90 years	D. Entwistle
Summer	E. A. Yarbury
Graunie Puzzled	G. F. Sharlud
Simple Simon	W. H. Hunt
Lady Adèle	B. Lintott
Checkmate	E. Gauntlett
A Study in Grouping	C. A. Irvine
The Lame Souter	J. W. Eadie
Hodge	E. W. Ward
Another Dirty Boy	R. Curry
A Study	D. C. Urquhart
A Young Lady	J. W. Horton
Saltwood Fountain	E. P. Tipping
"Spare Moments"	E. Collinge
Group	S. B. Beard
A Charitable Visit	J. Harriman
Recreation and Refreshment	A. C. Nicholls
Tollers of the Deep	C. H. De W. Green
Pleasant Companions	E. J. Appleby
Pleasant Pastime	C. A. Simms
Rest and Chat	A. H. Blake
Early Morning	A. J. Fuller
Kathr Woman and Child	A. C. Fuller
Little Friend and Child	A. H. Farmer
A Group of Nagors	J. A. MacAdam
Group of Indian Policemen	A. H. Ashton

Sale and Exchange.

RULES.

CHARGE.—Twelve words or less for Fourpence. Every additional three words, one penny. The name and address of the sender must be paid for.

(A single figure, or group of figures undivided by letter, space, stop, or words, counts as one word; compound words count as two words.)

PAYMENTS should be made in Postal Orders or Postage Stamps.

ADDRESS.—All advertisements (which can be received up to Wednesday morning, 9.0 a.m.) and other communications having reference to the "Sale and Exchange" column, must be addressed "Sale and Exchange, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C."

DEPOSITS.—The money for goods forwarded on approval may be deposited with the Publishers of the AMATEUR PHOTOGRAPHER, who will hold the amounts deposited until they are satisfied that the transaction has been completed to the satisfaction of buyer and seller.

COMMISSION.—A charge of 2½ per cent. will be deducted from all deposits whether a sale is effected or not.

PAYMENT.—All payments are to be by cheques or Postal Orders, made payable to Hazell, Watson, and Viney, Ltd., 1, Creed Lane, London, E.C.

REPORTING.—Apparatus may be sent to the Editor, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C., who will report upon the apparatus to the buyer for a minimum fee of 2s. 6d., or a commission of 2½ per cent., upon the sale price of the apparatus.

CARRIAGE must be paid on all apparatus sent for report, and they will be returned carriage forward.

ADVERTISEMENTS can be inserted under a number, the name and address being registered, and letters forwarded for a fee of 3d. to cover postage.

Backgrounds.—Three backgrounds, in flatted oils, on linen and roller, 8 ft. by 38 in., new and perfect; cloud, 10s. 6d.; interior, 12s. 6d.; conservatory, with palms, 15s.; photographs forwarded.—William Hare, Photographer, Sutton, Surrey.

Three very pretty backgrounds, flatted oil, 8 ft. by 6 in., conservatory, arbour, and exterior; 15s. each; approval; cash or deposit.—Hill, Hampton Road, Twickenham.

Burnisher, etc.—Burnisher, 6½ in., new set weights and scales; exchange for half-plate dark-slides, fit Le Meritoe, 1887 pattern.—Webb, 123, Rushmore Road, Clapton.

Cameras, etc.—Well-made half-plate camera, very light, three double backs; price 42s.—Nichols, 3, Upper Baker Street, N.W.

10 by 8 camera, one back, never used, every movement, cost £8 15s.; also whole-plate, three backs, cost £8 5s.; approval; deposit; cash offers wanted for either or both.—No. 182, AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.

Perfectly new 5 by 4 Gotz patent camera, beautiful instrument, every possible movement, four double backs, with set of carriers for quarter-plate, and Eastman's film carriers; what offers?—Young, St. John's Vicarage, Portsea.

The Stereoscopic Co.'s quarter-plate Artist camera, quite complete, and in perfect order, cost £11 11s.; will take £7.—Apply to J. K. S., care of the AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.

Half-plate bellows camera, portrait lens, 45s.; large Grandfather's clock, light oak case, inlaid, first-class order, £3, or exchange £4 10s. 6d.—Camera, Heyside, Royston.

Cameras, Lenses, etc.—Lancaster's 1891 Instantograph, half-plate, R.R. lens, and wooden slide,

The AMATEUR PHOTOGRAPHER

Telephone No. 1645
Telegraphic Address: VINEY, LONDON

Office: 4, Gress Lane, Ludgate Hill, London, E.C.

No. 354. VOL. XIV.]

FRIDAY, JULY 17, 1891.

[PRICE TWOPENCE.]

OUR VIEWS.

"To hold as 'twere the mirror up to nature."—Shakespeare.

Members of the Editing staff are "At Home" on Monday afternoons from Two till Five o'clock, and they will gladly give advice upon all photographic matters.

OUR VIEWS.—International Photographic Exhibition at Leeds—Photographic Society of Japan—The Photographic Convention—Exhibition of the Photographic Society of Great Britain—The Automatic Photograph Company—Zoological Photographs—The "Night Blooming Cereus"—Illustrating the AMATEUR PHOTOGRAPHER—International Congress of Photography—Halifax Camera Club.

LEADER.—Orthochromatic Collodion Emulsion—Societies' Excursions.

ILLUSTRATION.—"A Manx Fisherman," by Alex. Keighley.

LETTERS.—A Portable Dark-room for Army Officers (Centurion)—Free Libraries and Photographs (W. Booth)—The Quarterly Examinations (James Stein).

COMMUNICATED ARTICLES.—Photographic Procedure (Wall)—Composition, and Light and Shade (Robinson)—New Emulsion Printing-out Paper (Burton)—Orthochromatic Collodio-bromide Emulsion (Jonas)—Chloro-cyanin as a Red Sensitizer (Eder).

HOLIDAY RESORTS AND PHOTOGRAPHIC HAUNTS.—Grasmere and District (W. A. Watts).

APPARATUS.—The "Mac" Hand-camera—Gott's Celluloid Dishes—"Presto" Hand-camera—Sloper's Hanging Wire Plate Lifters—"Vista" Mounts.

SOCIETIES' MEETINGS.—Cambridge—Croydon—Edinburgh University—Hackney Holborn—Liverpool—Morley—North London—North Middlesex—Oxford—Richmond—Rotherham—Sheffield—Southport Social—Staff. Potteries—Sydenham—West Surrey—Wolverhampton—York.

We have received the prospectus of the International Photographic Exhibition to be held at Leeds under the auspices of the Leeds Corporation Art Gallery Committee, augmented by the following well-known members of the Leeds Photographic Society: Messrs. Godfrey Bingley, F. W. Branson, T. W. Thornton, C. H. Bothamley, Herbert Denison, and S. A. Warburton. The exhibition will open on December 7th, and close on the 9th January, 1892. There will be four classes "open to professionals *only*," four "open to amateurs *only*," nineteen "open to professionals and amateurs." "Sets of four" are stipulated for in most of the classes in Class 27. Lantern-slides, sets of twelve, are to be sent in; this class is open to professional and amateur. It is sought to make a strong feature of photo-mechanical work in this section; an entrance fee of 10s. for each set of six pictures will have to be paid. We notice that the section is divided into ten classes, *i.e.*, Photogravure (line subjects), Photogravure (half-tone subjects), Type-high Processes (line subjects), Type-high Processes (half-tone subjects), Collotype, Photo-lithography, Photo-micrography, Woodburytype, Photo-chromography from intaglio plates, Photo-chromography from type-high blocks, Photo-chromography from flat surfaces. In all, there will be thirty-seven classes in the exhibition, and a silver and bronze medal for each class will be placed at the disposal of the judges, as well as two gold medals which may be awarded in

classes of special merit. In addition to the above classes there will be one "for pictures which have gained first award at any open exhibition held before January, 1891, open to amateurs and professionals." In this class two gold medals will be given—one for portraits, groups, and figure studies, and one for any other subject. Full particulars can be obtained of the Curator, Mr. Geo. Birkett, Municipal Art Gallery, Leeds.

THE Photographic Society of Japan now numbers fifty-five members; financially, also, it is in a flourishing condition. The Secretaries report that the Society does not receive as much support from the profession generally as was anticipated. During the year many excellent papers have been read and demonstrations given by the members.

THE Convention week passed off with considerable success notwithstanding the unfavourable weather. We have received copies of the very able papers "On the Photographic Work of Herschel and Fox Talbot," by William Long, F.C.S., and "Recent Developments in Printing Processes," by C. H. Bothamley, F.I.C., F.C.S. We regret that the calls upon our space will not permit us to publish them. It was determined to accept the invitation of the Edinburgh Photographic Society, and hold the 1892 Convention in that city. This should prove an additional attraction to many, who we hope will send in their names and join the Convention. Mr. J. J. Briginshaw, the Hon. Secretary, and Mr. E. J. Appleby, the local Secretary at Bath, had a busy week, and deserve the thanks of all for the excellent arrangements made for the comfort of the visitors.

THE Council of the Photographic Society of Great Britain have determined to hold their annual exhibition in the galleries of the Royal Society of Painters in Water Colours, 5a, Pall Mall East, from Monday, the 23rd September, until Thursday, the 12th of November next. The following gentlemen have been appointed judges, and have all consented to act:—Messrs. John E. Austin, F. Hollyer, P. H. Newman, F. M. Sutcliffe, and J. B. B. Wellington. Entry forms may be obtained of the Assistant Secretary (Mr. H. S. Lawrance), 50, Great Russell Street. It will be noted that the bench of jurors is of an entirely new cast, and will permit several prominent and well-known photographers to enter their pictures for competition. We understand that there is every likelihood of a first-class exhibition.

THE Automatic Photograph Company, Limited, are not in a very happy condition; their Chairman, Lord Kilmorey, and others of the directors have resigned. The public are quite prepared to spend their pennies in being "took," but the examples which we recently saw at the Naval Exhibition are not such as to fill the public with confidence or a desire to spend even the humble penny for a photograph. In our private capacity we were taken, and in the family circle the tintype was received with groans. The man in charge, upon our remarking that "it was hardly a faithful likeness," said, "Oh! this batch of plates is bad." Still, the fact of the possibility of taking a photograph automatically is a wonderful achievement, and it is to be regretted that the inventors did not perfect the apparatus before appealing to the public for capital, and placing upon the market machines which, however excellent in theory, fail in practice to fulfil the promises made for them.

WE understand that the Zoological Society have opened stalls in their gardens for the sale of "Zoological photographs," which are mostly portraits of the animals in the gardens.

MAJOR H. W. B. BRUNO has sent us an excellent photograph of the "Night-blooming Cereus," which we shall reproduce next week. It will be remembered that this plant blooms only at night, and, so far as Major Bruno knows, all previous photographs have been taken with the flashlight. The negative from which the print was taken was exposed at daybreak before the light had affected it. The photograph was taken at St. Helena.

WITH reference to the illustrating of this journal, we shall be glad to receive topical photographs of general interest for reproduction, so that the AMATEUR PHOTOGRAPHER may become a record of events of interest which have been photographed by amateur photographers. These photographs will, as far as possible, be reproduced in uniform sizes, but the photograph may be of any size, as if smaller, it will be enlarged, and if larger, it will be reduced. The photographs should have some general interest—Royal, municipal, and social functions; portraits of celebrities, dignitaries of the Church, members of Parliament, public men, artists, authors, and others; in fact, anyone who is prominently before the public; yachting pictures, tennis tournaments, cricket, football, and golf matches, etc.; new public buildings, ship launching, etc., etc. The photographs must be received on THURSDAY MORNINGS, and must have reference to matters of interest that have come prominently under public notice during the previous week. One or more photographs will be reproduced every week provided they are of sufficient public interest.

WE have received the programme of the International Congress of Photography, to be held in Brussels about the 23rd or 30th of August, under the auspices of L'Association Belge de Photographie. The following are the special questions to be considered by the Congress:—

1. Study of photographic lenses. Determination of the principal characteristics of lenses. Project for the formation, in different countries, of laboratories for the study of photographic lenses.
2. Addition of new numbers to the normal series of photographic lenses, and new mode of mounting the said lenses.
3. Lens front for use with stereoscopic apparatus.
4. Addition of new numbers to the normal series of the size of photographic plates.
5. Determination of the normal thickness for photographic plates on glass.
6. Addition to the rules for the establishment of formulæ of compound liquids.

7. Additions and modifications in detail of the nomenclature of photographic terms.

The above questions are practically the outcome of the Congress of 1889. The following new questions have also to be considered:—

8. Steps to be taken to establish a federation between the photographic societies of different countries.

9. Measures to be taken to bring to the notice of photographic societies regularly constituted, information which may be of interest to them, and to submit to them questions, the study of which would present a special interest for photographic science.

10. Measures to be taken to realise the holding of periodic congresses, and to assure the representation of regularly constituted photographic societies.

The fee for joining the Congress is 10 francs, and application should be made to M. Pector, 9, Rue Lincoln, Paris.

We should much like to see the next International Congress held in London, and it would be no very difficult matter to attain if the Photographic Society of Great Britain, the Camera Club, and a few of the leading societies on this side of the Channel would delegate a Committee to invite such congress. It is true we have the Convention and the Camera Club Conference, but neither have taken up that national importance which would necessarily be the case if the Congress was held in London. We might then hope to see the settlement of some of the vexed questions which now sadly stand in the light of the formation of definite photographic standards.

At a meeting held on the 6th inst., a new club was formed at Halifax. It is to be called "The Halifax Camera Club." The subscription is fixed at ten shillings per annum, but members elected between the 31st May and the 30th November will be admitted on a subscription of five shillings for the six months. The ordinary meetings are to be held on the first Monday in the month. We are pleased to state that already fifty-eight members have been enrolled, and we have no doubt that there is a very successful future before the club.

"Nature" says:—"Dr. Alfred Tuckerman has compiled an excellent 'Bibliography of the Chemical Influence of Light,' which has been published as one of the Smithsonian miscellaneous collections. As the compiler had in view only the scientific aspects of the subject, he has omitted nearly all the practical applications, including that of photography. An index to the literature of photography is being prepared under the auspices of the Committee for indexing chemical literature, of the American Association for the Advancement of Science."

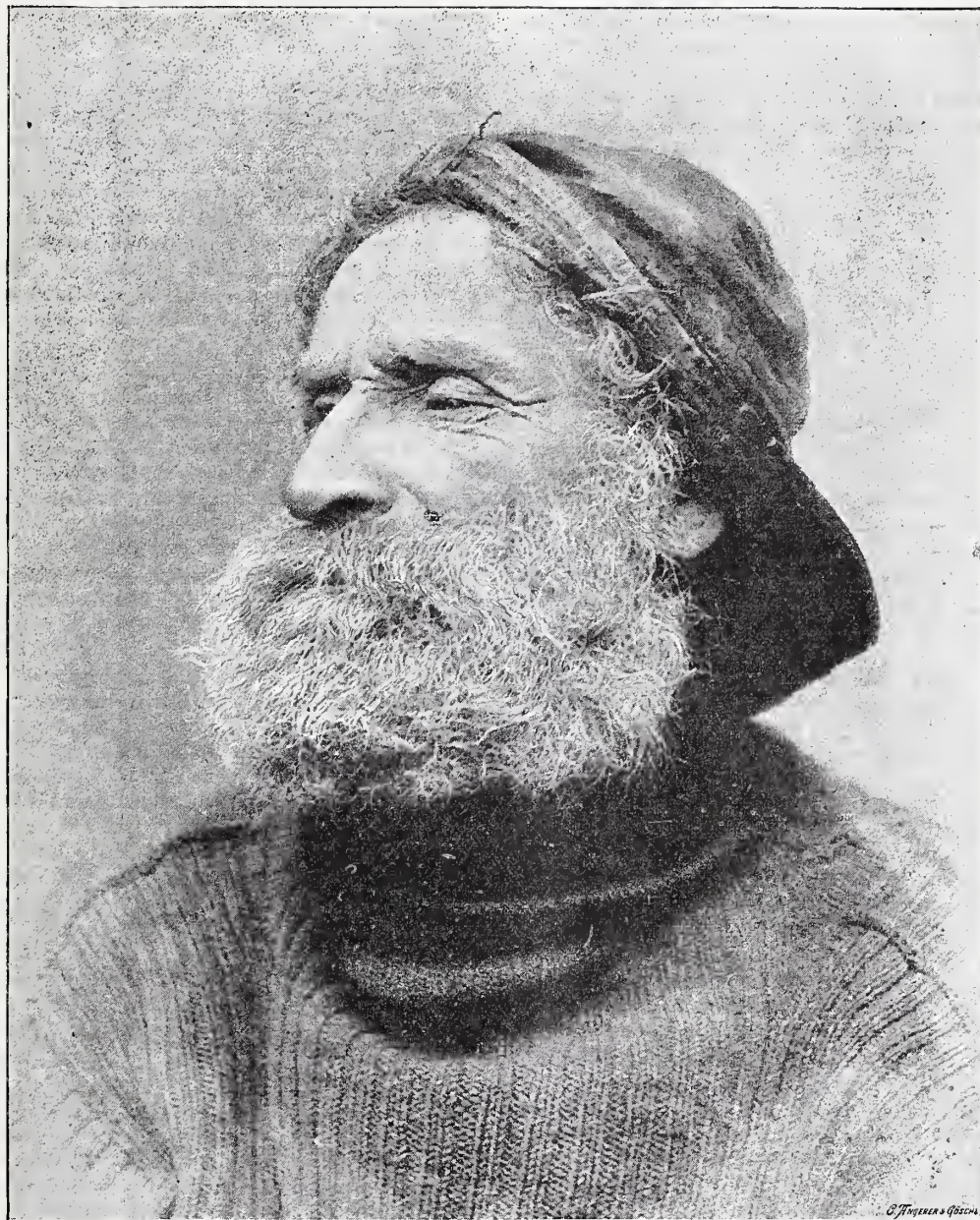
Messrs. Dollond and Co.—To all who have had any knowledge of optics, who have ever needed spectacles or optical instruments, the name of Dollond is familiar, as well as to many amateur photographers, the firm having for many years done a considerable business in photographic apparatus. It will interest many of our readers to know that Dollond's has been a business for more than 150 years. For many years they occupied premises at the corner of Ludgate Hill and St. Paul's Churchyard; these have been acquired for City improvements, and the firm have just removed to 35, Ludgate Hill, the corner of Pilgrim Lane, only a few minutes' walk from the offices of the AMATEUR PHOTOGRAPHER. Here, in addition to a splendid stock of optical and scientific instruments, they have a first-class show of photographic apparatus, and are making special arrangements for extending that section of their old-established business. In order to be up to time, Dollond's have fitted up a capital dark-room for changing plates during the day without artificial light, compact and well ventilated. Many of our Monday afternoon visitors will find this "dark-room" very convenient. Dollond's have a branch house at 62, Old Broad Street, where they have as manager a practical photographer, and a large stock which will be found useful to the enormous number of amateur photographers who live in the northern and eastern suburbs of the metropolis. The premises on Ludgate Hill are admirably adapted for business, and we feel sure that every one will receive the same courtesy and attention as we did upon our recent visit. The firm will shortly introduce several specialities, and, we may mention, stock Edwards, Thomas, Paget, Ilford, and other plates.

ORTHOCHROMATIC COLLODION EMULSION.

On another page we give a translation of an important article emanating from the K. K. Sehr und Versuchsaustalt für Photographie und Reproductions-verfahren in Vienna, presided over by Dr. J. M. Eder. The commercial value

known fail to give entire satisfaction. With Dr. Jonas' process it will be possible for such houses to prepare in a few minutes their own plates, sensitised for any particular colour which is predominant in the picture or object to be copied. To the amateur, also, who is not afraid of a little

"AMATEUR PHOTOGRAPHER" COMPETITION PICTURES.



A MANX FISHERMAN.

BY ALEX. KEIGHLEY.

of such a process as is there described can hardly be appreciated by the amateur who is content to buy his own plates; but in large ateliers and houses where it is customary to use collodion as a means of reproducing objects for photo-mechanical and other processes, this process will go far to supplant commercial colour-sensitive plates, which it is

trouble, and possesses some little photographic or chemical experience, the difficulties to be met with are not great; actually the greatest difficulty for an amateur who starts on the collodion process for the first time is the coating of the plate—this is always a trouble, and it requires some little experience to be able to successfully coat a plate with

collodion without spilling some over the edges, and without showing any waves of double thickness. Still, this is merely a matter of experience.

Dr. Jonas has given us formulae which will enable those desirous of so doing to keep the collodion and dye solutions in stock, and it will only be necessary to just sensitise the collodion for the particular colour, and then coat and expose, for the stock emulsion and dye solutions, once prepared, will keep for a long time quite unchanged. And we are not speaking without some authority when we state that a well-known English scientist has been for many months engaged on a process somewhat similar in details, but applied to gelatine emulsions, which will result in the preparation of a new colour-sensitive gelatine dry plate which will be shortly placed on the market. Our readers are, of course, aware that somewhat of a monopoly exists in the preparation of colour-sensitive plates, in consequence of the existence of a patent, and, like many monopolies, this has hampered the advancement of photographic progress in the particular path of obtaining more correct colour rendering by preventing the general adoption of such plates. In a short time, however, this monopoly will no longer exist, and colour-sensitive plates will be on the market which will possess novel features both in price and quality.

We have in England a threatened invasion of collodion plates, and several experimenters have been working with the special purpose of obtaining a dry collodion plate which shall show as high a sensitiveness as the ordinary gelatinobromide dry plate. Success has been announced from various quarters, so possibly we may shortly see such a plate placed on the market. In the face of this we may well ask what are the advantages of collodion over gelatine, and are they sufficiently great to warrant the throwing over of gelatine in favour of the old friend? If we sum up the pros and cons of each side, we shall find that there are considerable differences to be observed. Collodion plates have a much thinner film, a much finer grain, take less time to fix, wash, and dry, and some of the old operators claim that the collodion plate is far superior to the gelatine in rendering of the high lights and half tones. The disadvantages we may sum up very briefly—lower sensitiveness, greater chance of accidental damage to the film, the impermeability of the film to aqueous solutions, the higher price of the plates, the lower sensitiveness to the less refrangible rays of ordinary emulsions. The disadvantages of gelatine are the long time necessary for developing, fixing, washing, and drying; the liability to stain, the coarseness of grain of the image—an important point in scientific work—and the liability to frill, expansion and contraction of the film, and consequent distortion of image. The advantages are the greater keeping power, greater sensitiveness, less liability to injury, and cheapness. Frilling, expansion, and contraction of film have been so far obviated by improved methods of manufacture as to be taken out of court. Eder has proved how suitable the gelatine dry plate is for accurate measurement, the distortion of image not amounting to $\frac{1}{6,000}$ th (Eder, "Ausführliches Handbuch der Photographie," Vol. II., p. 25), an amount which may be totally disregarded. Those who have worked with collodion only can appreciate the pleasure of seeing a fine negative film float off the glass down the sink, a by no means uncommon occurrence. The claim that finer results are obtained on collodion plates is not, we think, borne out in practice, and we venture to state that there is no result obtained with collodion which is unattainable on gelatine.

We do not think, personally, that we shall ever see collodion replacing gelatine with the majority of amateurs, but undoubtedly the great advance made by Dr. Jonas will lead many to try his process, and for special work by specialists

collodion may again come to the front; if this be the case, however, this particular process or one founded on similar lines, will undoubtedly be used, as never before has it been possible to attain a sensitiveness with collodion equal to many a so-called rapid gelatine plate.

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SOCIETIES' EXCURSIONS.

It seems almost redundant, not to say superfluous, to impress upon all members of photographic associations the advantage accruing to themselves, as well as to their respective societies, by heartily supporting the trips which are now being held all over the face of the country. But "most strange most true," from all accounts which reach us, there seems, with a few notable exceptions, to be a curious and almost inexplicable unwillingness on the part of members to partake of the good things offered them in the shape of genial and profitable raids into what is often "that undiscovered country from which no traveller returns," without a good "neg." or a pleasant reminiscence. Under these circumstances we feel that a few remarks on the subject will not be amiss, especially as we hope they may result in an awakening on the part of the lethargic. What first strikes us is, that the persistently neglecting to attend the whole or half-day excursions (which are generally so carefully planned by a painstaking executive) indicates on the part of any individual a mighty lack of imagination. Because, foresooth, he cannot picture the delights which await him in the, to him, unknown region, he decides they do not exist, and stays at home. Only slightly less aggravating is the man who has already seen a small sample of the chosen district and votes it "stale." This is merely another phase of the imaginative deficiency already alluded to, and is generally illustrated in the person of one whose receptive faculties are dormant, and who can neither see himself nor suffer others to show him. To such folk we would say that they must live for very long in any ordinary neighbourhood and withal explore diligently before every pictorial possibility within a radius of, say, three miles is even dimly recognised. How little, then, is it likely that outside the above circle anything but used up scenery would be met with?

But even if nothing sufficiently novel ensued in the shape of subject, certainly the few hours' companionship of kindred spirits must be profitable, and should be pleasant.

A few weeks ago we took part in an afternoon excursion on what proved to be a day wholly unsuited for photographic purposes. Was it therefore a failure? By no means! The apparatus was deposited at the village inn, and a rattling ramble was thoroughly enjoyed; the scenery was admired and discussed by appreciative specialists, whose minds were nevertheless free from all anxiety as to obtaining "medal-worthy" negatives; and, above all, there was nothing to carry! In point of fact, all the fun, and none of the worry, connected with landscape photography was present.

A minor, and a mean and ignoble reason which, no doubt, helps to keep down the average attendance is that some few members in most clubs have a mortal dread of what they call "giving themselves away." To admonish such is almost waste of time; but, anyhow, we desire to assure them that if they happen to be distinctly more clever or apt than their fellows, the latter will be powerless to filch this natural photographic precocity, and make use of it to impart artistic or any other merit to their own works. Should, on the other hand, it peradventure happen—and nothing is more likely—that the first-mentioned folk be lacking in pre-eminent ability, they will find abstention from full and free photographic intercourse a decidedly suicidal proceeding.

Another section of absentees is composed of those who may be described as street utilitarians. They probably will

freely admit all that we have urged; but, unconvinced, ask, "Does it pay in the shape of tangible results?" "Why, certainly," as the "colonel" used to say. That it *always* pays is beside the question. What amateur always obtains success even when *prima facie* there is everything in his favour? An abnormally splendid photograph is the product of great skill, plus a happy concatenation of unusually favourable circumstances. But by way of proof that good results are frequently attainable on half-day rambles, we cite the following case: An amateur, well known to us, took part last summer in an afternoon excursion in connection with his society, and exposed two plates, and on the same occasion noted down another view, which a few days later was duly operated upon. Out of the three aforesaid negatives two yielded prints which were placed respectively first and second in a by no means unimportant provincial exhibition.

The moral is, that the above referred-to exhibitor probably succeeded in winning distinction because he happened to go to the "society excursion." Had he despondingly stayed at home saying, "*Cui bono?*" he would only have done what scores do, and would thereby have missed seeing those scenes which enabled him to score heavily at the annual local show.

By the time these lines are in print, the brightest of the summer light will have passed away. Nevertheless, in spite of this falling off in actinic power, August and September are often more favourable than are June and July. They generally enjoy a stillness of atmosphere and an enhancement of aerial effect which are considerable aids, and which the earlier months of summer are apt to lack.

Therefore, to all who are fortunately members of photographic societies, we say, be wise in time, go to every outing which is arranged by your secretaries, to the end that when the long nights are once more upon us you not only have a store of interesting incidents to recount, but have also a worthy collection of studies to throw on the lantern screen, to hang on the walls of your local exhibition, to add to your album, or, perhaps best of all, to contribute to our various competitions.

Letters to the Editor.

A PORTABLE DARK-ROOM FOR ARMY OFFICERS.

SIR,—Your numerous correspondents would confer a great boon on officers of the army who are photographers by inventing a very light, portable, and easily put together dark-room for their use. We experience great difficulty in fitting up one in quarters; it cannot be made in a corner of the room, thereby utilising the walls for two sides, as nail-marks and various other incidental disfigurements would be charged to us as barrack damages on vacating our quarters. An officer may not retain his quarters beyond a month should he be on leave, though he may get the same room again. Should he not, after a dark-room has been rigged up, and another officer—a non-photographer—is in it, he may not see the force of bundling all his things out to suit your convenience. Should it be a photographer, a ready-made dark-room may be exactly to his taste. Where, then, is the use of making one under these conditions? What is wanted is a very light, easily carried, and easily put together "dark hole," as many of the attempts of amateurs in this line are called. Voyages by troopers, with the banging about of one's kit by fatigue parties of soldiers, and consequent damage to it, must be taken into consideration. Until one arrives at exalted rank, the weight and size of baggage allowed is not very large. Of course, officers who do not live in barracks, as married officers, may have facilities of converting a room in their bungalows, but I have found from experience of five different bungalows in Ceylon, where my regiment is stationed, that in neither of them was I able to do so with any degree of satisfaction or safety. In the rooms which might be used, there are no ceilings, and the tiles let in any quantity of light, and in the rains leak like a sieve. This would entail making an entirely new ceiling, which one is not always disposed to do, either from

expense, or the fact of being here to-day and gone to-morrow. Officers of the navy can always, on the other hand, with very little trouble make their cabins into perfect dark-rooms; merely put a piece of ruby fabric over the port-hole, and there you are. A room of 4 ft. by 4 ft. by 6 ft., or even bigger, if it can be made compatible with weight, would be large enough; it should be well ventilated, on account of the high temperature of most of the places which the British officer has the honour to be quartered in. It should be made of some material which the numerous animals which infest those places would not relish as a frugal meal.

However, this might be stopped by steeping it in kerosene oil—the white ant does not appreciate that! By the *noms de plume* employed by many of your correspondents, it would appear your paper is extensively read by army officers, and I am sure that there are plenty of your subscribers who sit at home at ease, and do not practice photography at a temperature of 100 degs. or more, as in our dark-rooms, and who have opportunities of seeing, knowing, and hearing of all the latest inventions, who would willingly do all in their power to help us, situated as we are, so very many of us, who dabble a little in our spare time in this most fascinating pastime of photography, many thousand miles away from old England. My regiment is under orders for the Cape, and I should like to get the room made here, where the labour is cheap, and take it with me. Should your baggage be over-weight or over-sized, the officer embarking the regiment does not often have much compunction in simply leaving it on the quay, and you find it has to be sent by private ship at your own expense. If it could be made so that the supports, etc., could be made to go into a box about 4 foot long, it would be all that could be desired. The shelves, developing table, cistern, and sink could always be knocked up very cheaply in the regimental workshop.

Thanking you in anticipation (and apologising for the length of my letter), and the kind-hearted brother photographer who can, and I hope will, help us in this most important part of our kit, yours truly,

Ceylon, June 11th, 1891.

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FREE LIBRARIES AND PHOTOGRAPHS.

SIR,—I notice in your paper of July 3rd, H. E. suggests that the Newcastle Free Library Committee should make a collection of photographs, to which you add that every free library should obtain photographs of places of local interest. At Cardiff the free library and the Cardiff Photographic Society are working together to that most worthy end, and in order to encourage all amateur and professional photographers in the county to contribute, the Committee of the Cardiff Free Library are offering gold, silver, and bronze medals for the best sets of local photographs, to be competed for at the Cardiff Photographic Exhibition, which will be held during the week the British Association are in Cardiff next August.—Yours truly,

WM. BOOTH.

180, Cothay's Terrace, Cardiff, July 8th, 1891.

* * * *

THE QUARTERLY EXAMINATIONS.

SIR,—Your welcome paper has just come in with the pleasing news that I have been successful in obtaining the first prize in your "Quarterly Examination." Many of the answers given were obtained from the old numbers of your weekly and monthly papers, which I find, owing to the splendid indexes, almost unequalled as books for reference.

In regard to the prize, I should like a Thornton-Pickard time and instantaneous shutter, as it will always be a pleasing memento of your examinations, and I give on the other side a circle giving the size of the hood of the lens—the balance, if any, in Mawson and Swan's Castle plates (whole plate size). If convenient to you, I should like the shutter sent here, as I have just started for my holidays and might find it useful—the plates, however, to my address, 55, Vespan Road, Shepherd's Bush.

I hope shortly to enter for some of your other competitions, but do not consider that I have as yet reached a sufficiently high standard. Thanking you again, yours faithfully,

JAMES STEIN.

Park House, Shipston-on-Stour, July 12th, 1891.



Spurrier's Improved Patent Takeabout.—In our notice last week we omitted the address of the makers, Messrs. S. T. Matthews and Co., 8, John Bright Street, Birmingham.

Photographic Procedure.

By E. J. WALL,

Author of the "Dictionary of Photography."

SECTION I.

THE CAMERA AND ITS APPURTENANCES.

(Continued from page 28.)

Carriers.—There are two kinds of carriers, one for the use of small plates in larger cameras, the other for holding films or a piece of flexible material coated with a sensitive emulsion. The first kind is a frame-work of wood, suitably tongued and dove-tailed so as to avoid warping, of the exact thickness of a dry plate, in the centre of which an aperture is cut to receive the sensitive plate. It is absolutely essential that the plane of the sensitive surface of the small plate should be in exact register with the plane of the surface of the full-sized plate. This may be tested in the same way as described under testing the dark slide, *q. v.* The carriers for flexible supports or films generally consist of a thin metal frame, into which the film is laid and stretched taut by clipping a piece of wood or metal on to it. A very good substitute may at a push be obtained by using a piece of stout zinc plate, clipping the one edge of the film to this by a piece of thin, tight-fitting brass slipped over the edge, and then clipping the other in the same way.

By the use of carriers for glass plates the novice is able to use smaller plates than the camera is intended for, thus saving considerably in the cost of dry plates and chemicals in the early stages; and when fair progress has been made, larger plates may be adopted. It is thus possible to use half or quarter plates in a whole-plate camera, or quarter or lantern-size plates in a half-plate. It is advisable when thus using smaller plates to temporarily affix to the inner surface of the ground glass a piece of opaque paper, in which is cut an aperture which exactly corresponds both in size and position with the opening in the carrier, or the ground surface of the glass may be drawn upon with a lead pencil, and directions for marking the focussing-screen will be found under that heading.

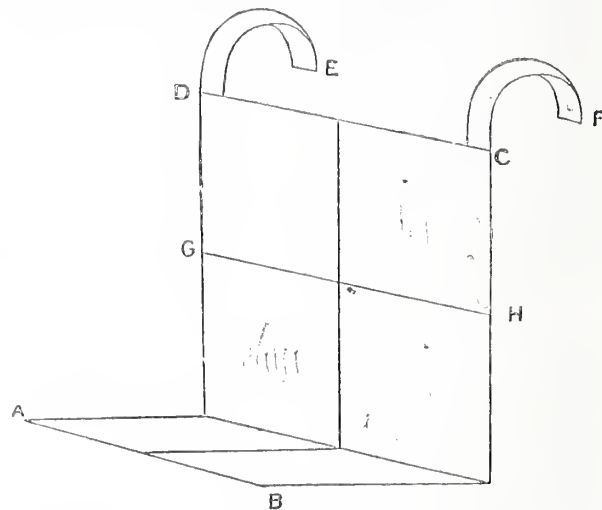
Cases for Cameras and Dark Slides.—For tourist work it is advisable to have the whole of one's apparatus in a convenient case, and this should be preferably of stout leather, lined internally with baize or felt to prevent scratching of apparatus, and if not made to measure should have loose partitions of stout card, covered with baize or felt to prevent friction between the various parts of the apparatus. Inferior and cheaper cases are made of mail-cloth or waterproof material. In choosing a case, the camera for which it is required should be fitted into it, and there should be sufficient room for the requisite number of dark slides, the lens, the tripod head and screw, instantaneous shutter and focussing-cloth, and various little oddments which complete the kit of the more advanced worker.

Many of the commercial cases, I venture to think, are made on a wrong principle; they are made to be carried in the hand by the side, and the hand has a natural tendency to fall close to the hip, and the nearer you can keep your hand to the side whilst carrying anything, the more comfortably one can do so, and also with much less fatigue. A camera case, therefore, should be merely thick enough to take the camera, and should be increased in length, and not in width, to accommodate the rest of the impedimenta. Square

camera cases are a nuisance; they entail stretching the arm away from its natural position, and, as one gets fatigued, are a constant source of annoyance from knocking or rubbing against one's knee or leg.

A very good material to use, not only as lining, but also as partition, is the thick felt of the upholsterer, which may be obtained about 40 ins. wide, and almost any thickness. One or two thicknesses of this form convenient buffers to prevent shaking, jarring, and friction, and tend to the preservation of apparatus.

For walking tours, or even long distance tramps, the most convenient place to carry the camera is knapsack fashion, on the back, and, for this purpose, a special carrier should be made, the idea for which I am conscious of having read somewhere, which I do not therefore claim as now or original. The material of which to make the carrier should be thin sheet iron, and it may take the shape shown in the diagram.



A, B, C, D, is a framework of thin iron or steel of the requisite size to take the camera case, and which is kept in place by buckles and straps from D C and A B. D E and C F are bent pieces of sheet iron, at least two inches broad, to fit over the shoulders, and are fastened by straps round underneath the arms to G H. The secret of having this arrangement comfortable is to have the shoulder pieces broad and flat, and the pieces in the back also flat. It could be made also of basket work, and would then be probably lighter still, and, as suggested in the *Photographic News* some years back, a special case of basket work could be made. A somewhat similar arrangement has been suggested for cycling, to be affixed to the bar of a cyclo, and commercial carriers have been introduced on this principle.

Cases for dark slides are a convenience, but not a necessity. The commercial kinds are usually cardboard, covered with black twill and lined with flannel. The writer has used bags made of wash-leather for some considerable time. They protect the slides from mechanical injury, and afford a further protection from light to the plates; they take up but little extra space, and the convenience and extra safety ensured by their use warrants the small outlay.

Changing Box or Bag.—A changing box is a light-tight box constructed to contain a number of sensitive dry plates or films, which can be placed in the focal plane of the lens, exposed and changed for an unexposed plate or film, without recourse to a dark room. When on the tramp, unless a large number of dark slides are carried, the operator is limited to a definite number of plates,

and when these are exposed he is confronted with the difficulty of finding a dark room or cellar, or must trudge home, conscious of passing many a picture or view he would like to secure, but is prevented by want of further ammunition. Many commercial changing boxes have been introduced, but it can hardly be claimed for anyone that it has come into general use. Increase of the number of dark slides means increase of weight and increase of bulk, and, above all, increase of expense. One principle which seems to the writer to be practical, and which has formed the subject of a patent, is the idea of carrying sensitive plates in a bag of light, tight material, the end of which folds over and prevents the ingress of light. This folded end can be slipped over one end of a special-constructed dark slide, a small slide shutter withdrawn, and the plate drops down and is pressed into register by a spring or screw. Another arrangement which is by no means a novelty in Germany, though it has formed the subject of a recent English patent, is a grooved box, provided with a sliding cover made of over-lapping slabs of wood, like the well-known roller-shutters of shops. In the centre of this is a grooved cross-piece, provided with a slit and slide. Into the groove fits a specially-constructed dark slide, the sliding shutter is withdrawn, the box turned completely over, and the plate drops into position in the dark slide; the sliding shutter is closed, the dark slide removed and placed in the camera, the plate exposed and returned in the same way to the original groove. As each groove is numbered, any rapidity or special brand of plate can be exposed when desired. Other changing boxes take the form of a box with a sleeve of light-tight material, at one end into which the hand is inserted, the front and exposed plate lifted by the fingers and inserted at the back of the box. Changing boxes are, as a rule, expensive, and have, as we have already stated, hardly made their way into general practice.

Changing bags have been devised which permit plates to be changed in the open. Provided with one of these, the operator is able to change any number of plates with ease. Some are so arranged as to hang underneath the tripod head between the legs, others are merely bags into which the plates and slides are inserted, and the hands and the requisite change made by the sense of touch only, some being, however, provided with spectacle frames, glazed with non-actinic glass, to enable the operator to see the plates and slides.

The following description of a changing bag will enable any one to construct one for personal use:—"A changing bag, or even tent, can easily be made from an old umbrella. With a little alteration it makes a developing tent at a pinch, yet packs up with the camera stand. To make the changing bag, take four pieces of cardboard, 18 by 9 inches, make them into a box, minus ends, by glueing stout strips of linen on the edges, on both sides, not allowing the card sides to meet by $\frac{1}{4}$ inch, so that this frame can fold up flat; then take black linen 1 yard 2 inches square, glue this over the frame, put a runner of elastic at either end of the surplus linen, and it is ready. You have only to pass in the dark back and plates, slip the hands in through the elastics, slipping them well up the arms, and it will be quite light-proof."* A changing box or bag is a convenience when actually away from any

house, but usually it is customary, by means of a little courteous behaviour, to obtain the use of a cupboard or cellar for changing plates, and the writer makes a practice of always carrying a sheet or two of non-actinic paper and a supply of pins, and is thus able to rig up a temporary dark-room with very little trouble.



Composition, and Light and Shade.

Selected and arranged for the use of Photographers, from "Burnet's Essays," with Introduction and Notes.

By H. P. ROBINSON.

CHAPTER XIII.

LIGHT AND SHADE.

BEFORE proceeding to investigate light and shade in their various intricate situations, it may be proper to notice a few of the more palpable and self-evident combinations, and for the better comprehending of which, I shall divide them into five parts, viz., light, half-light, middle tint, half-dark, and dark. When a picture is chiefly composed of light and half-light, the darks will have more force and point; but, without the help of strong colour to give it solidity, it will be apt to look feeble: and when a picture is composed mainly of dark and half-dark, the lights will be more brilliant; but they will be apt to look spotty for want of half-light to spread and connect them; and the piece be in danger of becoming black and heavy: and when a picture is composed chiefly of middle tint, the dark and light portions have a more equal chance of coming into notice; but the general effect is in danger of being common and insipid.

Light and shade are capable of producing many results; but the three principal are relief, harmony, and breadth. By the first the artist is enabled to give his works the distinctness and solidity of nature. The second is the result of a union and consent of one part with another; and the third, a general breadth, is the necessary attendant on extent and magnitude. A judicious management of these three properties is to be found in the best pictures of the Italian, Venetian, and Flemish Schools, and ought to employ the most attentive examination of the student; for by giving too much relief, he will produce a dry hard effect; by too much softness and blending of the parts, woolliness and insipidity; and in a desire to preserve a breadth of effect, he may produce flatness.

Relief is most necessary in large works; as their being seen from a greater distance than easel pictures prevents their looking harsh or cutting, and gives them that sharpness and clearness of effect so necessary to counteract heaviness. Not only the works of Raphael and those of the Italian school possess this quality, but we find it in the greatest perfection in the pictures of Paul Veronese and Tintoret; and even the larger works of Titian and Corregio have a flatness and precision which we look for in vain in the succeeding school of the Caracci and their disciples; Guido excepted.

Harmony or a union of the different parts of a composition depends upon the intermediate parts serving as a link or chain, either by conveying a sensation of the same colours with those in immediate contact, or by neutralising and breaking down the harsh asperities of the two extremes, and thus producing a connexion or agreement.

Breadth of effect is only to be produced by a great extent of light or shade pervading the picture. If an open daylight appearance is intended, such as we see in Cuypp, etc., it will be best produced by leaving out part of the middle

* Mrs. Bayldon. The "Amateur Photographers' Annual," 1891, p. 8.

tint, and allowing a greater spread of light and half-light; this will also give the darks the relative force which they possess in nature. If a breadth of shadow is required, such as we find in Rembrandt, etc., the picture ought to be made up of middle tint and half-dark. In the one treatment the darks ought to tell sharp and cutting, which is the characteristic of strong daylight; in the other, the lights ought to appear powerful and brilliant, enveloped in masses of obscurity.

The influence of shadow upon any composition, when carried beyond the necessary depth for the relief or distinct marking of the several parts, is breadth, from its absorbing many of the half tints and rendering the darks less cutting; and repose, from there being fewer of the outlines visible; hence arises a certain grandeur attendant upon space, and an agreeable sensation, from the spectator being allowed to exercise his own fancy in embodying indistinct forms. Thus the gloomy solitude of a wood is increased by the absence of the twittering light through the trees, the absence of their harsh colour, and the distinct form and crisp marking of the leaves. Rembrandt has carried this property of shadow beyond the hope of any improvement, and by this means has clothed the most trifling subject with a portion of sublimity. If we allow ourselves to be influenced by the association of ideas, it is capable of imparting a greater degree of horror to any subject of terror; as imaginary dangers appear greater than real, being augmented by the operations of the mind. Milton has made use of this quality in describing the situation of the fallen Angels:—

"From those flames
No light, but rather darkness visible
Served only to discover sights of woe."

And Titian, in his picture of the Martyrdom of St. Lawrence, which otherwise is disagreeable from its being cold and black.

Having thus defined some of the characteristic features of shadow, the effects of light in a great measure explain themselves, being in most instances of an opposite nature. Its cheerful influence operates on the mind of the spectator, either when viewing the festivities of a village holiday or when he beholds it diffused over the general face of nature; it may be termed the Allegro in Painting.

Photography of all the arts represents the lights and shades of nature with the greatest truth and perfection. Its range of gradation is not wider than can be obtained in painting, its scale is not so extensive as that of nature any more than is the scale in any other means of art, but within its limits its gradations are unequalled for fidelity and delicacy.

In saying this it must be understood that I refer to what photography admits in the hands of an expert, leaving out of the question what it permits in the hands of the inexperienced. Science demonstrates that absolute truth of gradation can only be obtained by correct exposure, but practically for pictorial purposes, or, in other words, to represent what the eye sees without the use of a measuring instrument, there is no necessity for extreme accuracy. Neither a hard black and white image nor the soft results of over-exposure and under-development are true, but between these there is a considerable range of gradation, *apparently* true, which is all that is required in pictorial effect.

These gradations, then, have the advantage of not being automatically perfect, they can "go wrong." As in other arts skill is necessary to get the best results, and the more we know the more skill seems to be required, as should be the case in all but the mechanical arts. Control of exposure and development is necessary for success, and we are all acquainted with the failures, not of the art, but those who use it, in this respect. Every exhibition shows errors from these causes in many pictures, making the earnest student rejoice that there is still something difficult in photographic manipulation in which he can show the results of study and experience. When skilfully employed, photography has sufficient force and depth to represent the most gloomy

interiors, and such delicacy in the lightest gradations as has never before been given by any means of art. As in the composition of lines, so it has been found with light and shade by the experience of the greatest painters, that certain arrangements produce the best effects.

It is admitted by all the best writers on the subject that mere natural light and shade, or, for the purpose of photography, the light and shade that may happen to be on a subject at any time, is not always the best chiaroscuro in art. In painting, a good deal can be controlled by treatment; in photography, something can be done by treatment, and more by selection. In nature, light is shed indiscriminately on all subjects, subordinate objects may be brought prominently forward, and important features may be cast in the shade, for nature is not an artist. Art selects and arranges; nature does not. Yet the truth of nature must be observed; and although separate truths may not be true art, true art requires that there should be no absence of truth; truth must be represented as a whole. Hence arises the necessity of judicious selection in the subject and treatment of a picture. In no part of art is judicious selection of more consequence than in the choice of chiaroscuro, for the effect of a picture may be either beautiful or the reverse, according to the way its subject is clothed in light and shade.

A knowledge of how to mass light and shade is most necessary for the student to attain, and can only be thoroughly learned by careful study of nature, guided by the experience and works of the great masters. There are a few simple rules, however, a knowledge of which will assist the student in his studies. These rules will be found in the following chapters.



A New Emulsion for Printing-out Paper.

BY PROFESSOR W. K. BURTON.*

I REMEMBER once talking to Mr. W. B. Bolton, to whom we owe so much for our present knowledge of emulsion work, on the genesis of collodio-bromide emulsions. He told me that one of the suggestions came from Rejlander. This artist was always in trouble with his bath, or his collodion, or both, and, speaking with Mr. Bolton and some other experimentalists, he asked: "Cannot some of you clever fellows get over this eternal bother by mixing the whole lot up together?" Well, a collodion emulsion may be looked on as a mixture of the collodion and the wet-plate bath. The water is the only thing that is left out, and not the whole of that.

Something of the same thing suggested itself to me some time ago in connection with printing. I had been trying various different ways of sensitising plain paper with silver salts, trying, amongst others, some of the excellent processes of Mr. Lyonel Clark, and I got good results with many of them, if I gave the necessary amount of care and took trouble enough; but the care needed was certainly great, and the trouble of the double process of salting and sensitising more than I liked. Moreover, I found that I was very liable to get defects in the way of spots, streaks, and the like, even after all the care and trouble. Why not, I thought, get over at least half the trouble by mixing the ingredients up together and applying them to the paper in one operation? Every formula that I had been using contained gelatine as one of the constituents, and had the making of an emulsion in it.

There is nothing new in this, it may be said. It is nothing more nor less than the gelatino-chloride emulsion that we are already acquainted with under various names, such as "aristotype" and goodness know what else. I think, however, that the emulsions that I am going to describe have several novel features. In the first place, they are emulsions that need no washing, and that are made by the extremely simple process of pouring one liquid into or mixing one liquid with another. The emulsions are, moreover, ready for use at once, and, being liquid at ordinary temperatures, can be applied to paper or other materials either by floating, as in the common method of sensitising albuminised paper, or by brushing them over the material that it is wished to sensitise. Farther than this, no gloss is given to the surface of the paper. I think, indeed, that by its process the preparation

* Read before the members of the Camera Club.

of sensitised paper—of any kind so far as surface is concerned—is reduced to the utmost possible simplicity.

I have tried a number of variations in the quantities of chemicals, and have had more or less success with all. In fact, there is great elasticity in the proportions that may be used, and I believe that almost any formula for a printing-out gelatin-chloride emulsion might be taken, and that good results could be got if one or two considerations were not lost sight of. The first is that the quantity of gelatine must be kept so low that it will not cause a gloss on the paper, or cause the emulsion to set at ordinary temperatures. The second is that the formula must insure a large quantity of insoluble silver salt in suspension. The reason for this is that the coating got by an emulsion that does not gelatinise immediately after coating is much thinner than if it does gelatinise.

To those who have not had much experience in emulsion work, it may be worthy of remark that, within very wide limits, the same quantity of an insoluble silver salt is emulsifiable in a given quantity of water, whether the quantity of gelatine used as a menstruum be great or small. Roughly speaking, the haloids, or I imagine the other insoluble, or nearly insoluble salts of silver, resulting from the decomposition of 1 oz. of silver nitrate can be emulsified in 10 oz. of water, but, if that quantity of silver be exceeded, a part will not emulsify, but will be thrown down in the granular form, in which it is useless for sensitising any surface. The proportions vary, however, with certain conditions, such as alkalinity or acidity of the solutions.

The difference between the failure of a silver haloid to emulsify in a gelatinous solution, and the precipitation of it from that solution afterwards, must not be lost sight of. Thus, if any of the emulsions that I am now writing of be kept for a number of days at a highish temperature—such as that of pretty hot weather—it is likely that a good deal of the insoluble silver salt will be found at the bottom of the vessel holding the emulsion, but this silver salt is not in the granular state, and can be re-emulsified by heating the mixture to about 120 deg. Fahr., and shaking well, the more easily if a little more gelatine be added.

I select three formulæ as follows:—

FORMULA No. 1.

A.

Nitrate of silver	..	..	..	..	400 grains.
Water	..	..	..	..	4 oz.

B.

Gelatine (soft)	..	..	..	..	80 grains.
Chloride of ammonium	..	..	..	..	80 "
Citric acid	..	..	..	..	120 "
Water	..	..	..	..	8 oz.

FORMULA No. 2.

A.

Nitrate of silver	..	..	..	..	400 grains.
Water	..	..	..	..	4 cz.

B.

Gelatine (soft)	..	..	..	..	80 grains.
Chloride of ammonium	..	..	..	..	80 "
Citric acid	..	..	..	..	120 "
Carbonate of soda (dry)	..	..	..	..	45 "
Water	..	..	..	..	8 oz.

FORMULA No. 3.

A.

Nitrate of silver	..	..	..	..	400 grains
Water	..	..	..	..	4 oz.

B.

Gelatine (soft)	..	..	..	..	80 grains
Chloride of ammonium	..	..	..	..	80 "
Citric acid	..	..	..	..	60 "
Carbonate of soda (dry)	..	..	..	..	80 "
Water	..	..	..	..	8 oz.

In my hands the first formula gives an emulsion suitable for preparing paper to be used for printing from dense negatives, the second from medium, and the third from thin negatives.

The third formula is, I am afraid, dreadfully unorthodox. Unless I have made a mistake in my chemistry—which is highly probable—there is just about enough of ammonium chloride and of sodium citrate formed by the double decomposition of the citric acid, and of part of the soda, to decompose the whole of the nitrate of silver. I don't know whether, in this case, there will be carbonate of silver formed; but, if not, there remains a large excess of carbonate of soda. All I can say is

that the formula works all right, and that the paper that results from the use of it keeps very fairly. The paper resulting from either of the other formulæ will, I have no doubt, keep as long as any ready sensitised paper. I have already kept some nearly a month, and it is still quite white.

The following is the method of emulsifying. The two solutions are heated to a temperature of 110 deg. to 120 deg. Fahrenheit. The temperature should not be greater than 120 deg., or there is a great chance that some of the insoluble silver salts produced will be thrown down in the granular form. A is then added slowly to B with much stirring. The emulsion is filtered through a double thickness of cambric, and is then immediately ready for use. If it is wished to keep the emulsion for any length of time, 10 per cent. of alcohol, in each ounce of which a few grains of thymol have been dissolved, should be added to the emulsion. It is to be observed, however, that, even with this addition, emulsion by formula No. 3 will not keep for very long.

The best way of coating is certainly by floating, allowing three to four minutes, but the quantity of emulsion needed is considerable. It is possible to get an even coating by brushing with cotton wool in the following way. The paper is laid on a sheet of glass, or a clean board, and is thoroughly and evenly damped with the solution by brushing over the surface several times in directions at right angles. It is put on one side for ten minutes or a quarter of an hour to get surface-dry, when the operation is repeated. By working in this way, it is possible to do with a very small quantity of solution emulsion, and also to use what there is to the last drop, but the quantity used will be found to be more per sheet than in the case of floating. I have never been able to get an even enough coating by brushing only once.

The temperature of the operating-room should be not below about 70 degs. Fahr., or else the emulsion should be warmed.

The paper is best dried pretty quickly before a fire, or near a stove, after it has lain face upwards for about four or five minutes to get partly surface-dry. In fact, the paper is best treated, in the matter of drying, like paper that has been coated with the solutions for the "hot bath" platinotype process.

It will be found that it is possible to coat about eight sheets of "medium" sized paper (22 by 17, the orthodox photographic size) with the quantity of emulsion given above, by brushing, or ten to twelve sheets with a consumption of the like quantity by floating. It will thus be seen that the process is economical.

The colour in the printing frames should be a rich brown with either of the first two formulæ, a deep purple with the third.

The printing is very quick, whichever of the formulæ be used, but with No. 3 it is extraordinarily so. Indeed, paper coated with emulsion prepared by this formula is, I think, more sensitive than that by any other printing out process that I know of. It is so sensitive that it is quite necessary to take extra precautions in working it. It needs at least all the care that platinotype paper needs, although there is, of course, the difference that, in the case of the silver paper, the result of the action of feeble light is seen at once; in the case of the platinotype paper it is not seen till the time of development. I consider it best to do everything in the way of preparation by gas or lamp light.

Toning may be either by gold or platinum. I prefer Clark's platinum process to any other. I add, however, a good dose of salt to the solution, and put the prints into it dry. That is, at least, when using either of the first two formulæ. When using the third, the prints are washed in a weak solution of citric acid before they go to the toning-bath, to neutralise the alkalinity.

If a platinotype toning-bath that has been used for some time, and that has been repeatedly strengthened with chloro-platinite of potassium, be used, a colour is got that some people dignify with the appellation "sepia tint"; but I incline to call it a dirty brown.

I find that the emulsion is readily applicable to wood, and I hope to get good results when I have had some panels made of one or other of the beautiful white woods, with a fibre like silk, that are peculiar to this country.

I have got very fine colours of image by printing lightly and intensifying, as suggested some time ago by Clark, but have not, as yet, been able to overcome a tendency to staining in the whites. Perhaps Mr. Clark will help me with a hint or two in connection with this matter.

I send a few samples of prints done by the process, but I do not think they are fair samples of what it is capable of. They are on Whatman's drawing-paper, which is not very suitable for photographic purposes unless it is specially sized, and I have not sized it.

Orthochromatic Collodio-bromide Emulsion.

THE orthochromatic collodion emulsion of Dr. Albert, of Munich, has for some time been recognised as giving far superior results to the gelatine dry plates, and for this and for the rapidity of working and convenience with which any size plate, specially colour sensitised, can be prepared, has led to the adoption of this process in most of the large continental ateliers, where oil paintings, pictures, etc., are copied or reproduced. The following translation of a paper by Dr. A. Jonas, in the current number of the *Photographische Correspondenz*, gives a method which he has worked out for making such orthochromatic emulsion, and credit is due to the author and Dr. Eder, at whose suggestion the work was undertaken, for the publication of the same.

Collodio-bromide Emulsion made with Ammonio-nitrate of Silver.

The use of the method of making an emulsion by means of ammonio-nitrate of silver, which gives such good results with gelatine emulsions, does not yield satisfactory results with collodio-bromide of silver. The cause of this lies in the fact that the ammonia set free in emulsifying partly destroys the collodion, and thus frequently gives rise to spots and other failures. In the following process this defect is completely obviated: the ammonia is neutralised immediately it is set free by acetic acid, and can, therefore, no longer act prejudicially on the collodion; moreover, one obtains a very fine grained creamy emulsion by this process. The manipulations are as follows:

Solution I.

Ammonium bromide	64 grm., or 247 gr.
Distilled water	80 cc.m., 336 m.
Absolute alcohol	800 " 7 oz.
Thick collodion (4 per cent.) ..	1,500 " 13 "
Acetic acid	65 grm., 250 gr.

Dissolve the bromide of ammonium in the given quantity of water by the aid of heat, and add first the alcohol and then the collodion and acetic acid.

Solution II.

Silver nitrate (crystal)	80 grm., or 308 gr.
Distilled water	50 cm., 210 minims.

Dissolve by the aid of a gentle heat, and then add carefully solution of ammonia (specific gravity, 0.91) in small portions till the brown precipitate first formed is again dissolved, about 72-75 cc.m., or 302-315 minims will be required; then add 800 cc.m., or 7 ozs., of absolute alcohol which has been heated to 45 degs. C. Solution II. must be clear and colourless; if it is brown, the alcohol is not pure. Both solutions can be prepared by daylight.

When solution II. is made, one must go into the dark-room, which should be illuminated with orange light, and pour solution II. into solution I. in a thin stream, shaking No. 1 violently the whole time. The temperature of No. 2 solution must be kept at from 40 degs. to 50 degs. C. during the mixing, or else the ammonio-nitrate of silver will crystallise out. It is as well, therefore, to place it from time to time in a water bath heated to this temperature. With the quantity given above, the mixing should take from ten to fifteen minutes. When mixed, a drop of the emulsion should be placed on a sheet of glass, a drop of distilled water squirted on to it, and tested with litmus paper. It should be faintly acid. If it is alkaline, the acetic acid was too dilute; acetic acid should be then added to the emulsion, drop by drop, till it gives an acid reaction. The emulsion should now be shaken well for a quarter of an hour, allowed to stand for an hour, and then poured into five or six times the quantity of water. The collodio-bromide of silver which separates out is collected on an absolutely clean, closely woven linen cloth, the ends of which should be tied together, and the bag thus obtained hung, without pressing it, for one or two hours in a vessel with running water. After which time the excess of water is squeezed out with gentle pressure, the emulsion washed once with distilled water, again pressed and spread out on a thick layer of pure filter paper to dry. The drying takes from one to two days, and is finished when the larger pieces have become completely dry also in the middle, which one can easily recognise when one breaks them open.

The dry collodio-bromide of silver is best kept in black glasses in a completely dark place. For use, one dissolves:

Collodio-bromide of silver	6 grm., or 92.5 gr.
Alcohol	40 cc.m., 11 drms.
Ether	60 " 16½ "

The sensitiveness of the emulsion is after one hour's ripening about $\frac{1}{2}$ deg. W.* This is increased twice or three times by twenty-four hours' ripening at 15-20 degs. C.; the colour of the bromide of silver when looked through is converted thereby from reddish violet into blueish violet.

The chemicals must be absolutely pure. The alcohol, ether, and acetic acid ought not to reduce ammoniacal silver solution even by boiling. All vessels, moreover, must be most carefully cleaned, best with nitric acid. Even the slightest trace of thio-sulphate of soda (hypo) causes fog and flatness.

Dyeing the Emulsion.

The raw emulsion was mixed with the silver salts of various dyes, dissolved in alcoholic solution of ammonia, and tested sensitometrically as well as spectroscopically. Every 100 c.c.m. of emulsion were mixed with 17 milligrammes of silver nitrate, and the quantity of dye equivalent to this proportion of silver as well as a certain quantity of picrate of ammonia and glycerine. For this purpose the following stock solutions were prepared:—

1. Silver Solution.

3.4 grammes or 52.5 grains of crystallised silver nitrate were dissolved in 20 c.c.m. or 336 minims of distilled water, and converted into the ammonio-nitrate by solution of ammonia (sp. gr. 0.91), and the volume made up to 200 c.c.m., or 7 ozs. by the addition of alcohol.

2. Dye Solutions.

The eosin dye stuffs used were in the form of their sodium salts in chemically pure state, and $\frac{1}{100}$ of the molecular weights of the same was expressed in grammes, and dissolved in as little warm water as possible, and the volume of the solution made up to 1 litre by addition of 95 per cent. alcohol.

The following quantities were used of the various dyes:—

	Chemical Formula.	Molecular Weight.	Quantity used per litre of Solution.
1. Eosin	$C_{20}H_6O_5Na_2Br_4$	692	6.92
2. Phloxin	$C_{26}H_4O_5Na_2Br_4Cl_2$	761	7.61
3. Erythrosin	$C_{20}H_4O_5Na_2I_4$	880	8.80
4. Rose Bengal... ..	$C_{20}H_4O_5Na_2I_4Cl_2$	949	9.49

3. Solution of Ammonium Picrate.

Three grammes or 46 grains of picric acid were dissolved in 10 c.c.m. or 170 m. of water, exactly neutralised with solution of ammonia (sp. gr. 0.91), and the volume of the solution made up to 300 c.c.m. or 10½ ozs., with 95 per cent. alcohol. Every 50 c.c.m. or 14 drachms of the dye solutions, containing $\frac{1}{2000}$ of a molecule of dye,† were mixed with 30 c.c.m. or 8½ drachms of solution 3, as well as with 10 c.c.m. or 168 minims of silver solution 2, containing $\frac{1}{1000}$ of a molecule of silver nitrate, the precipitate formed with erythrosin and rose bengal again dissolved by the least possible addition of alcoholic solution of ammonia,‡ then to this solution 40 c.c.m. or 11 drachms of chemically pure glycerine were added, and the volume of the solution made up in each case by addition of alcohol to 100 c.c.m. or 28 drachms. 1 c.c.m. or 17 minims of these solutions were mixed with 10 c.c.m. or 170 minims of raw emulsion immediately before use, and the dyed emulsions, after filtering through a pad of cotton wool, immediately used.

The emulsion dyed with cyanin was prepared in the following manner: 0.3 grammes or $4\frac{1}{2}$ grains of cyanin were dissolved in 50 c.c.m. or 14 drachms of water, and 100 c.c.m. or 28 drachms of raw emulsion were mixed with 10 c.c.m. or 170 minims of this solution, and 1 c.c.m. or 17 minims of pure glycerine added.

The cyanin-erythrosin emulsion was prepared by mixing equal parts of cyanin emulsion and erythrosin emulsion. The coated plates were, after the evaporation of the alcohol and ether, exposed whilst still damp, and before developing washed under a stream of water till the disappearance of the so-called greasy marks.

* Tested with Warnerke's sensitometer and phosphorescent plate.

† The molecular weight of the dye was expressed in grammes, that is to say, eosin molecular weight 692, and of this 692/2000 grammes taken.

‡ That is, absolute alcohol saturated with dry ammonia gas (known in England as alcoholic ammonia, or alcohol ammonia).—ED: AM: PHOT:

Spectroscopic Examination.

To test the colour sensitiveness of the above-named emulsions to the solar spectrum, Herr Director Eder and myself instituted some experiments with the glass spectroscopie.*

First of all, the undyed collodion emulsion was tried, and the ordinary curve of sensitiveness found (see Eder's "Handbuch," Vol. I. p. 242). By addition of the silver compounds of the eosin dyes the formation of a powerful maximum was caused between E and D in the green and yellow, which is much greater than the maximum in the blue. Eosin and erythrosin gave the greatest relative sensitiveness in the yellowish green: little difference is to be noted between the two, except that the sensitising maximum of the latter lies somewhat further towards the less refrangible end (analogous to the behaviour with erythrosin bromide of silver gelatine plates).

With phloxin, and still more strikingly in the case of rose bengal, the maximum of sensitising lies somewhat further towards the orange, but the total sensitiveness, however, of the emulsion coloured with this dye is lower, and also the relative yellow green sensitiveness. For this reason the ordinary eosin or erythrosin was chosen, since these can be most easily obtained in a chemically pure state. The spectrum of eosin collodion, however, is not identical with that of Albert's emulsion, since the latter, besides the strong maximum in the green and yellowish-green (between E and D, which is characteristic of all eosin dyes), still shows a faint sensitising maximum at D $\frac{1}{2}$ C. Otherwise, the general character of the sensitising, and the behaviour of the emulsion in photographing colour charts is very similar.

The addition of ammonium picrate lowers in a very marked manner the sensitiveness of eosin emulsion to the blue and violet. The spectrum on a collodio-bromide emulsion, mixed with eoside of silver and ammonium picrate, shows a faint action in the blue and violet, to which, without striking interruption, the prominent maximum of the sensitising in the green and yellow is joined; with very short exposure in the spectroscopie, only the latter maximum appears.

Cyanin makes the emulsion sensitive for orange, a faint action extending through the red into the infra red.

Eoside of silver and cyanin give two sensitising maxima, but spots are easily formed in the film, and the total sensitiveness suffers; so that this mixture has not proved advantageous as a sensitiser for the reproduction of coloured objects. On the other hand, eosin, as well as erythrosin, with ammonium picrate, render excellent service.

Sensitometer Tests

with Warnerke's Sensitometer and the Hefner-Alteneck Amylacetate Lamp as light source.

	Dye.	Distance.	Exposure.	Deg. Warnerke.	Relative Sensitiveness
Wet collodion process...	—	25 cm.	1 minute.	9	1
Ammonio-nitrate collodio-bromide emulsion	—	25 cm.	1 "	5	$\frac{1}{2}$
Do. do.	Eoside of silver	1 m.	1 "	17	150
Do. do.	With excess of silver	1 m.	1 "	20-21	350-400
Do. do.	Erythrosin silver	1 m.	1 "	14-15	70-90
Do. do.	With excess of silver	1 m.	1 "	21	400
Do. do.	Phloxin silver...	1 m.	1 "	17	150
Do. do.	Rose Bengal silver	1 m.	1 "	15	90
Do. do.	Cyanin = Erythrosin silver	1 m.	1 "	12-13	40-50
Do. do.	Cyanin	25 cm.	1 "	161	7
Ammonio-nitrate collodio-bromide emulsion bathed in 3 per cent. sol. tannin	—	25 cm.	1 "	8	$\frac{1}{2}$
Dr. Albert's collodion emulsion	—	25 cm.	1 "	9	1
Do. do.	Dr. E. Albert's P Dye	1 m.	1 "	20-21	350-400

1. Very flat.

The Action of Excess of Ammonio-nitrate of Silver in the Dyed Collodion Emulsion.

It is well known that by the addition of nitrate of silver to the dyed emulsion the sensitiveness of the same can be increased†;

* Steinheil's large spectroscopie, with three glass prisms, as employed by Eder in his experiments, described in Eder's "Ausführliches Handbuch der Photographie, 1881," Vol. I., part 1, p. 24, was used.

† Eder. Photo: Corresp: 1889, p. 108.

the question is, to what limit one can go with the excess of silver in the emulsion described above without being afraid of the formation of fog. With this point in view 100 c.cm. or 3 $\frac{1}{2}$ oz. of the emulsion dyed as described above were successively mixed with 17, 34, 51, 61, and 85 milligrammes or 0.25, 0.5, 0.75, 1.0 and 1.3 grains of silver nitrate dissolved in hot alcohol, and by sensitometer tests, as well as by exposures in the camera, the action was watched. It was proved now that with the quantity of the excess of silver the sensitiveness, as well as the opacity of the silver precipitate, was increased. With 85 milligrammes of nitrate of silver excess in every 100 c.cm. of eoside of silver emulsion the sensitiveness was increased about three or four times, but a slight fog appeared. With 51 milligrammes excess of silver, the increase of sensitiveness always amounted to double that of the emulsion dyed with eoside of silver alone, and the plates were absolutely clear, and the covering power was also good.

Practical Working with Orthochromatic Collodion Emulsion.

As has been mentioned above, the solution of dyes were mixed with ammonium picrate and glycerine. The first has, as is well known, the purpose of damping the blue, and thus replaces the yellow screen, and was first used for this purpose by Dr. E. Albert. The glycerine is to keep the plate damp.

With exposures in the camera with the emulsion dyed as described above with eosin or erythrosin, it was frequently seen that the plates were covered with spots, which contained a small crystal in the middle. By the addition of water to the emulsion the spots could be made to disappear, and it was proved that the same were caused by ammonium picrate crystallized out. It is very important, therefore, that the dyed emulsion should contain the necessary quantity of water. In order to manage an addition of water to the emulsion, the dye solution was mixed with water, and the following has proved to be very good, not only as regards the correct colour action, but also as to the freedom of the plates from spots.

Raw Emulsion.

Collodio-bromide of silver (see p. 39) 6 grammes or 90 grains.
 Absolute alcohol 40 c.cm. „ 11 drachms.
 Ether 66 c.cm. „ 18 „
 Dissolve by frequent agitation.

*Eoside of Silver Solution.**(1) Solution of Eosin.*

Eosin (crystallised) .. 4 grammes or 61.5 grains
 Distilled water .. 50 c.cm. „ 14 drachms
 Alcohol (96 per cent.) .. 450 „ „ 126 „

(2) Silver Solution.

Silver nitrate .. 3.4 grammes or 52 grains
 Distilled water .. 50 c.cm. „ 14 drachms

The solution is mixed with concentrated solution of ammonia till the first formed precipitate is again dissolved, and the volume of the solution made up to 200 c.cm. or 56 drachms, with 96 per cent. alcohol.

(3) Ammonium Picrate Solution.

Picric acid .. 3 grammes or 46 grains
 Distilled water .. 10 c.cm. „ 170 minims

The solution should be exactly neutralised with ammonia, and the volume made up to 300 c.cm. or 134 drachms, with 96 per cent. alcohol.

For use one mixes:

Solution 1. .. 75 c.cm. or 21 drachms
 „ 2. .. 30 „ „ 8 „ 24 minims
 „ 3. .. 30 „ „ 8 „ 24 „
 Glycerine (chem. pure) .. 20 „ „ 5 „ 36 „
 Alcohol (96 per cent.) .. 45 „ „ 14 „ 16 „

This eoside of silver solution is allowed to stand for one or two days, and filtered, and 20 c.cm. or 5 drachms 36 minims of the same mixed with every 100 c.cm. or 28 drachms of raw emulsion.

*Erythrosin Silver Solution.**(1A) Erythrosin Solution.*

Erythrosin (chem. pure) .. 4 grammes or 61.5 grains
 Distilled water .. 50 c.cm. „ 14 drachms
 Alcohol (96 per cent.) .. 450 „ „ 126 „

The previously given silver solution 2, and ammonium picrate solution 3, are also here used.

One mixes—

Solution 1A	..	..	75 c.cm. or 21 drachms	
" 2	..	..	30 "	8 " 24 minims
" 3	..	..	30 "	8 " 24 "
Glycerine (chem. pure)	..	..	25 "	7 drachms
Alcohol (96 per cent.)	..	..	120 "	336 "
Distilled water	..	..	20 "	5 " 36 minims

The cloudy solution thus obtained is allowed to stand for a quarter of an hour, and then concentrated ammonia solution added drop by drop, with shaking, till it is absolutely clear; it is then allowed to stand for one or two days in a corked bottle, filtered, and 20 c.cm. or 5 drachms 36 minims of the same mixed with every 100 c.cm. or 28 drachms of the raw emulsion.

The dye should be well distributed by vigorous shaking, and the dye emulsion can be used immediately after twice filtering through a pad of cotton wool. The dyed emulsion will only keep for a day or two, and it is best mixed just before use.

The raw emulsion must be well shaken up for two to four minutes before mixing with the dye, so that the bromide of silver, which sticks to the bottom by standing for some time, is again equally distributed in the emulsion.

The emulsion dyed with eosin gives harmonious soft negatives. The erythrosin emulsion works somewhat harder, and is especially suitable when it is required to obtain good dense negatives, rich in contrast.

The exposure is about one-third of that with the ordinary wet collodion process, and no yellow screen is necessary for the reproduction of oil paintings, etc.

The eosin and erythrosin silver solutions must be kept in a dark place; they will then both keep a long time.

In the further treatment of the plates one may adhere closely to the following directions, which Dr. E. Albert has recommended for his emulsion. They have been proved very good for working with my eosin or erythrosin solution.

Treatment of the Glass Plates.

The glass plates which are to be used for the collodion emulsion should be coated with a substratum, which is prepared as follows:—

Dissolve

Gelatine (white)	..	..	5 grm. or 75 gr.
In distilled water	..	..	500 c.cm. or 17½ oz.

And then add

Acetic acid	..	..	15 c.cm. or ½ oz.
Alcohol	..	..	10 c.cm. or 170 minims.

The solution should be filtered warm (37 to 44 deg. C.), and, whilst still warm, should be poured twice upon the plates just fresh from the acid, which should have been well rinsed, and then the plate should be placed in an upright position in a room about 18 deg. C. (at least), and which is free from dust, to dry.

If one wishes to prepare stripping plates, it is best to use new plates. They should be vigorously rubbed with a flat piece of wood with nitric acid, then washed, dried, and then very carefully cleaned and polished with tripoli, ammonia, and alcoholic solution of iodine. Then one dusts with French chalk, distributes the same equally over the plate, without pressure, with a clean pad of cotton wool, and then wipes it completely off the plate with another clean pad of wool. After dusting, the plate is coated, as usual, with the dyed emulsion.

Preparation of the Plates. Choice of the Dark-Room Light.

The emulsion is poured on the plate exactly in the same way as with the iodised collodion of the wet process, and by red light. This may consist of a ruby-red dark-room lamp or a lamp with a red cylinder, and the same should be above the operator's head, and about one metre from the plate, as the light coming from above renders the preparation of the plate easy. It may also be prepared by the light of a red dark-room window, such as is used for the most sensitive gelatine plates. Fog, insufficient vigour of the image, are exclusively caused by too bright a dark-room light, since the plain as well as the dyed emulsion works clean and free from fog.

Exposure and Development of the Plates.

When the collodion has set, the plate is placed, without washing, into the dark-slide, and can be immediately exposed; but it will keep damp for 30 to 40 minutes in not too hot a room.*

* Baron Hübl has pointed out that too hot a room invariably causes fogged flat plates when working Albert's emulsion.—ED : AM : PRIOT :

After exposure the plate is washed by red light till the so-called greasy marks no longer show; then it should be placed in an upright position to drain well, and the plate is then flooded with the developer. Only when the developer is on the plate and the image already begins to appear can the negative be examined by the faint yellow light of a dark-room window.

When the image is developed enough, the plate is washed once, and then it is best fixed at once with hypo. The fixing takes place very quickly, as does also the washing out of the hypo.

It must be here noted that the washing after exposure must take place under a stream of water, and *not a rose*. The stream of water must be moved backwards and forwards over the plate, so that the same is quickly and evenly covered with water. The draining must continue the longer, the larger the plate; for instance, a minute is necessary with a so-called folio plate. *If it is not sufficiently drained, development streaks appear*. The developer should be copiously poured over the plate, and exactly in the same way as with the iron developer with the wet process.

Concentrated Hydroquinone Developer.

A.	
Distilled water	 500 grammes or 17 oz.
Sodium sulphite	 200 " 3,080 grains.
Potassium carbonate (chem. pure)	 200 " 3,080 "
B.	
Hydroquinone	 25 grammes or 385 grains.
Alcohol (95 per cent.)	 100 c.cm. " 28 drachms.
C.	
Ammonium bromide	 25 grammes or 385 grains.
Distilled water	 100 c.cm. " 28 drachms.
The concentrated developer is then mixed.	
Sol. A.	 100 c.cm. or 28 drachms.
Sol. B.	 5 " " 84 minims.
Sol. C.	 7 " " 117 "

For negatives, which should have a hard character, one increases solution B (hydroquinone) to 6–10 c.cm. or 90–170 minims. An increase of solution C (ammonium bromide) produces greater clearness, but is somewhat prejudicial, however, to the sensitiveness. Hydroquinone gives vigour, ammonium bromide clearness, and potassium carbonate sensitiveness.

The actual developer is prepared by mixing—

Concentrated developer	.. 150 c.cm. or 15 parts.
Water	 1,000 " " 100 "

By the addition of more concentrated developer, or by diluting with more water, one can prepare a developer which gives a very good negative agreeing with the original. The same also applies with the addition of more or less hydroquinone or ammonium bromide.

It should be observed, however, that potassium carbonate is met with commercially in very different degrees of purity and under various names (depuratum, bis depuratum, purum e tartaro, etc.), that it contains impurities of HCl and H₂SO₄, alum, silicic acid, and obviously according to the degree of purity contains a variable percentage of actual potassium carbonate. For development, always the purest potassium carbonate must be used, which is known commercially under the name of *e tartaro* or *purissimum*.

Intensifying before Fixing.

The plate can be intensified with the pyrogallol intensifier as with the wet process.

A.	
Pyrogallol	 7 grammes or 108 grains.
Citric acid	 7 " 108 "
are dissolved in—	
Distilled water	 1,500 cc.m. or 52 oz.
and then—	
Citric acid	 25 drops.
added	
B.	
Silver nitrate	 10 grammes.
Distilled water	 100 cc.m. or 10 per cent. solution.

Immediately before use one mixes 100 cc.m. of solution A with 5 cc.m. of solution B, and continues the intensification till the desired density is obtained. Negatives intensified in this way dry out much more dense.

Intensifying after Fixing.

For intensifying after fixing, the ordinary pyrogallol silver intensifier is very suitable, as well as the hydroquinone and silver intensifier recommended by Hübl.

I.				
Hydroquinone..	..	..	..	10 parts.
Distilled water	..	..	..	1,000 "
Citric acid	..	..	..	5 "

II.				
Silver nitrate ..	..	..	..	10 parts.
Distilled water	..	..	..	300 "

Immediately before use one mixes three parts of No. I. with two parts of No. II., and pours it over the well-washed plate whilst still damp. In order to attain still greater opacity one may also use the ordinary mercuric chloride and sulphite intensifier.

Reduction.

In reducing the negative, Dr. E. Albert recommends flooding the plate whilst still damp with a solution of one part of permanganate of potash in 300 parts of water. After this has acted long enough it is washed off with water, and the plate flooded with a 5 per cent. solution of cyanide of potash, and again well washed. The hypo and red prussiate of potash reducer, as used for dry plates, is also very suitable.

Chloro-Cyanin as a Red Sensitiser.

BY DR. J. M. EDER.

CYANIN is, up to the present time, the best sensitiser for orange and red. All commercial cyanin is the so-called iodo-cyanin. With some commercial kinds—not with all—or perhaps, also, with many kinds of emulsion, the formation of fog takes place during developing.

If we convert the iodo-cyanin into the analogous chloro-cyanin, the tendency to the formation of fog is lessened. This conversion may be effected in the following way: The cyanin should be powdered and covered in a porcelain or platinum dish with some water and hydrochloric acid. The mixture is evaporated to dryness on a water-bath with constant stirring; the mass thus obtained is again wetted with hydrochloric acid, and again evaporated in the water-bath. There remains behind, with evolution of hydriodic acid, a mass of chloro-cyanin, which still contains traces of hydrochloric acid, and is not, therefore, quite blue. If one heats the dish carefully on a sand bath or over a wire netting till the edges of the cyanin film become dark and metallic-looking, the last trace of hydrochloric acid escapes. However, a slight trace of hydrochloric acid hurts but little, because the cyanin is, as a rule, mixed with ammonia for the purpose of sensitising, and the hydrochloric acid is thus neutralised.

If one has previously weighed the dish, the increased weight will give the amount of chloro-cyanin which it contains after the evaporation, which can be dissolved in a corresponding quantity of alcohol.

The other behaviour of chloro-cyanin in respect to the solar spectrum, or as a sensitiser, is the same as that of the ordinary iodo-cyanin, which I have already proved and published.

The Action of Sulphur on Asphalt.—According to a preliminary note published in *Photographische Correspondenz*, Herr E. Valenta has discovered that by incorporating ordinary sulphur with coniferous resins at a high temperature, the same are rendered sensitive to light, and that Syrian or other asphalt thus treated becomes considerably more sensitive to light, and this process does away with the tedious and costly washing and precipitation with ether and chloroform as usually practised; thus the whole of the raw asphalt is used, and waste also avoided. Further particulars are promised of the details of the process.

Holiday Resorts and Photographic Haunts.

GRASMERE AND DISTRICT.

BY W. A. WATTS.

AMONG the many places that attract the photographer in this country, few offer so many advantages as the neighbourhood of Grasmere, and it is a matter of surprise to the writer that attention has not been called to it in the columns of the *AMATEUR PHOTOGRAPHER*. Indeed, the lake district generally is a very paradise for the amateur photographer, and he can hardly go wrong in his wanderings amongst the rocks and fells, the wood and water, the quaint villages and secluded valleys of that picturesque region, but Grasmere and Ambleside may be considered the cream of a district where all is rich and enchanting. If the tourist has only a day to spare, let him make the best of his way to Grasmere, though many spots will invite him to linger. Once there he will find excellent opportunities; he may plant his camera where he will, point it north, south, east, or west, as the light favours, and he can hardly fail to make a picture. Has he a few days or a week, he cannot do better than make Grasmere his centre and take daily excursions, and each day he will find abundance of subjects. If he is fortunate enough to have a month, he still need not leave the lake district, only in that case he will be wise to move about and devote a few days to each of the following centres: Windermere, Grasmere, Keswick, Ullswater, Wastwater, Buttermere, and Conistone. In this he may be assisted by a well-arranged series of coaches, char-a-bancs, and steamers, but the approved method is to shoulder the knapsack, mount Shanks' pony, and trudge along, as more, perhaps, than any region within our isles, the lake district is the metropolis of the pedestrian, to whom the comparatively short distances and the wealth and variety of scenery, hardly a yard going to waste, especially recommend that mode of progression.

If photographically inclined, he will still more regret entrusting himself to a public conveyance, as many charming spots will invite his camera, but he will regretfully be hurried past them. Once within the district he will scarcely need a directory; since, as has been already said, he can hardly go wrong plant his camera where he will, but a few particulars of tempting views may serve to indicate to those who are strangers to this district how manifold are its attractions. The writer has spent many a week walking through this region, which, in his opinion, is second only to Switzerland as a holiday ground, and few of whose paths and passes are unknown to him, but he may especially mention one day on which he availed himself of an excursion train, arriving at Windermere at about 10 a.m. and leaving at 7 p.m., and on which he made it his object, having just purchased an Eastman roller slide and being anxious to prove it, to endeavour to ascertain how many subjects could be exposed in one day. He does not mention his example as worthy of imitation, but the slide with its twenty-four exposures was exhausted before the subjects were.

Grasmere is most easily accessible by rail to Windermere, *via* Oxenholme and Kendal, thence a nine miles' walk, which may be lessened by taking steamer from Bowness to Ambleside, where 'buses will be found for Grasmere; or by rail *via* Carnforth to Lakeside and thence steamer the whole length of Windermere to Ambleside.

The tourist selecting the former route, who is not pressed for time, may find it worth while to stop over an hour or so at Kendal, which is an old-fashioned town with woollen mills; but the more picturesque route is the latter. Assuming this latter to be chosen, the tourist can travel either by London and North Western Railway or Midland to Carnforth, and will proceed thence by railway (Furness line) to Lakeside. At this point a steamer is in waiting, but a few minutes may be devoted to a view of the stream and bridge, or perhaps a yacht or two. Proceeding up the lake, which here more resembles a river, it is worth while to stop at the "Ferry," about two miles from Bowness, where a quaint picture may be obtained of a wagon and horses, or if fortunate as to time, a coach-and-four, crossing by means of the old-fashioned ferry; thence by the next steamer to Bowness, or, if pressed for time, a pleasant walk through the fields.

At Bowness there are a number of subjects: The ancient church,

an unpretending edifice, several quaint cottages, embosomed in honeysuckle and with thatched roofs, the flotilla of boats at the landing-place or the arrival of a crowded steamer, are all worthy of attention. The tourist arriving, *via* Kendal, at Windermere Station, where there is nothing much to delay him, may wisely take the omnibus down to Bowness and there join the steamer, though the walk to Ambleside may repay the fatigue. If time however is limited, it will be desirable to take the first steamer to Ambleside, and on the way several shots may be got from the deck—notably, Wray Castle, and the well-known and tolerably picturesque Lowwood Hotel, which Prior (the Baedeker of the district) describes as the favoured resort of “neogams.” The hotel and little pier from the water form a pleasing picture, and the pot hunter may succeed in catching a pair of the aforesaid “neogams.” It may be noted, however, that Wray Castle, being on the west side of the lake, requires a morning, and Lowwood, an afternoon light.

At the Waterhead landing-stage for Ambleside there will also be picturesque grouping of boats and yachts, and an arriving or departing steamer may lend animation to the scene. If time permits, a walk from Waterhead, of about a mile, to the old-fashioned village of Clappersgate, where several venerable cottages and a foot-bridge across the Brathay, leading to the church, form good subjects, will repay for the deviation. In returning to Ambleside, a footpath should be taken through the fields, beside the river Rothay, with its stepping-stones, leading near St. Mary's Church, which, though many consider too ambitious and modern, composes well in a picture. This avoids returning to Waterhead, but if time does not permit this deviation, a bus, which is in waiting, should be taken direct to Ambleside. Here there are the old Bobbin Mill, and the walk by the Salutation Hotel to Stock-Ghyll Force, which will repay several plates. The tourist fortunate enough to have a few days to spend here will probably desire to stay at least one night at Ambleside, as by this time the day will be far spent, his stock of plates exhausted, and good entertainment abounds for man and beast. The road from Ambleside to Grasmere (three miles), which should be the next day's route, must be walked ever step, as it abounds with beauties, and only a few can be indicated here. The first mile is the least interesting, but on approaching Rydal, there is an old-fashioned bridge over the Rothay, which demands a plate; then, on entering Rydal, there is Rydal Hall, the key to the grounds of which is kept at a cottage near, from which a guide conducts to Rydal Falls, both Upper and Lower, each of which affords a view. A little further on is Wordsworth's Cottage, not always open to visitors, and which is in too cramped a situation for most photographers. The road then skirts Rydal Mere, where are one or two picturesque views, notably one from a large rock, access to which is obtained by a stile in the wall, and which is known as Wordsworth's Seat. The retrospective view from the other end of the lake is also good, but a better one still may be obtained by crossing the Rothay at the aforementioned bridge, and keeping a cart track on the far side of the lake, whence we have a view of the lake in the foreground backed by the rocks of Nab Scar. This, however, involves retracing one's steps and rejoining the high road at the far end of Rydal by a long foot-bridge of very slender construction, and which is worth a plate. The tourist who keeps the highway should descend to this bridge at the far end of Rydal Mere. The road then turns abruptly round a point of rock, skirting the rushing Rothay, where may be found several combinations of rocks, wood, and water enough to justify a reckless expenditure of plates. A quarter of a mile further on the road comes sharply on the edge of Grasmere, where is another view, and shortly afterwards we see the landing stage of the Prince of Wales Hotel, most picturesquely situated, where the boats are sure to call for another plate. In the village of Grasmere itself we have the old-fashioned church, the best point of view for which, otherwise requiring a wide-angled lens, is found by going through the school-yard of the National Schools and so gaining access to the farther bank of the river, which itself makes a pleasing foreground. There is also a good view from the grounds of the Rothay Hotel. From the village, a road turning off past some venerable cottages, which themselves perhaps will hardly attract the photographer, leads up the hill by an old road, now disused as a high road, past the “Wishing Gate” of poetical and legendary fame, whose renown, coupled with a magnificent background composed of the lake and distant wooded mountains, will probably induce the expenditure of another plate. Around the

church also ought to be mentioned several old cottages, one of which can be well taken from the churchyard, where are also graves of Southey, Coleridge, and several of the Wordsworth family. The memorial to Wordsworth inside the church is scarcely accessible to any reasonable lens. Enough has probably been indicated to occupy a long day, but there is plenty of work for succeeding days in excursions around Grasmere, though fear of the editor enforces the propriety of merely giving a few outlines. A walk to Easdale Tarn, secluded in the hills, with its solitary cottage, may well occupy an afternoon, passing on the road a picturesque waterfall and several peeps on the stream. Another day should be devoted to Great Langdale, with its fine view from “Rest and be Thankful,” the gloomy dungeon Ghyll, requiring a long exposure, secluded Blea Tarn and the waterfalls of Skelwith and Colwith. A stroll around Grasmere will reveal several fine views, especially one from the further end called Red Bank, in which the island groups picturesquely; whilst from Ambleside excursions may be made to Conistone, returning by Hawkshead and the ferry, also to Patterdale and Ullswater, *via* Kirkstone Pass with its solitary inn, either of which will well occupy an entire day, and result in fresh food for the camera.



Apparatus.

THE “MAC” HAND-CAMERA.

MR. McKELLEN, of 3, Chapman Street, Hulme, Manchester, has put a new hand-camera on the market, the changing arrangement of which is a very novel one. To charge the camera the twelve quarter-plates are put into metal sheaths and placed in the back of the camera; the exposure having been made, the camera is turned so that the lens points directly to the ground, and the long lever on the right hand side of the camera is moved forward towards the front of the camera until the plate is heard to drop, when it is returned to its original position. Unless the camera is held in the position mentioned, the change of plate cannot be made, as a moveable stop then comes into action. The plate after exposure falls into a box which is raised towards it, and on falling into the box, toothed jaws on either side come into action and grip the exposed plates so that they cannot move, whatever happens to the camera, until it is desired to move them. The lens is of the rapid rectilinear form, and is provided with rotating stops, working normally at $f/8$. The shutter requires setting every time, but the setting is quickly done by moving a small lever on the front of the camera across from one side to the other, and it can be set to three different speeds. The aperture of the shutter does not cross the lens during the setting, but only at the time of exposure. When the front of the camera is opened to alter the stops, a light shutter is automatically closed, thus preventing the light getting to the plates. A plate and pointer at the top show the number of plates exposed, and focussing can be done by a milled-head screw at the side of the camera, the points for objects at 6, 10, 20, and 50 feet being marked, and a lens up to $7\frac{1}{2}$ in focus can be used. Two finders are fitted, and the whole is covered with black leather, and provided with a moveable strap for carrying. The price, complete with lens, is £7, but the purchaser's own lens can be fitted if desired, the price being then £6. Mr. McKellen also supplies a very similar camera, not leather covered, with fixed-focus landscape lens, at £5. The camera is unobtrusive, well made, and capable of doing most excellent work. It can be seen at our offices.

GOTZ'S CELLULOID DISHES.

MR. J. R. Gotz, of 19, Buckingham Street, Strand, has sent us a specimen of his celluloid dishes, which have very much the appearance of ivory, and are wonderfully strong. We saw one thrown violently across a room without the slightest damage. They are supplied in several colours, and up to 12 by 10. The prices are, quarter-plate, 9d.; half-plate, 1s. 3d.; whole plate, 2s., etc.

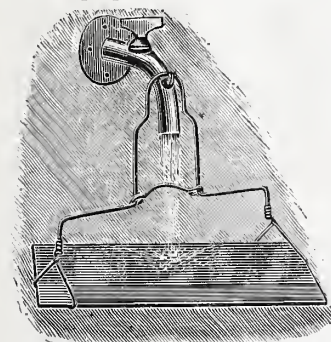
“PRESTO” HAND-CAMERA.

MR. A. Franks, of 95 and 97, Deansgate, Manchester, has sent us one of his larger “Presto” hand-cameras, which contains several features which are wanting in the cheaper form. It

measures outside $10\frac{1}{2}$ by $5\frac{1}{2}$ by $4\frac{1}{2}$, is fitted with a view-finder and focussing-glass, which can be used if desired, and it carries six plates in six novel dark slides. The whole of the slides are carried in a chamber at the back, and the changing is easily effected. The camera is made of stained black wood, and is provided with a handle for carrying. The shutter gives either time or instantaneous exposures. The camera is sold at 21s., and, considering the low price, very good work can be done with it. We understand that Mr. Franks has sold about 11,000 of the half-guinea size of the "Presto."

SLOPER'S HANGING WIRE PLATE LIFTERS.

Mr. B. Sloper, of 14, Brittox, Davizes, sends us specimens of his hanging plate lifters, which will be found very useful in more



ways than one. The plate once fixed in the holder is quite firm; in fact, it can be turned about in any way without danger, so that it can be fixed before development, and only taken out after drying. If the tap should not be provided with a hook, as in the illustration, a bit of wire twisted round it with the ends turned upwards will make a good substitute, and a few tacks driven into the edge of a shelf will do admirably to hang the plate up to dry after

the final washing. The holders will be a great boon to those who object to stained fingers.

VISTA MOUNTS.

Messrs. Percy Lund and Co., of Bradford, now supply some new mounts which will enable amateurs to utilise spoilt negatives in mounting pictures. These mounts are sent out in boxes containing twelve half-plate or twenty quarter-plate requisites. They consist of cardboard backing, rings, and mounts very similar to the ordinary masks, save that they are in fancy paper with edges wide enough to turn over. The following directions, which accompany each box, show the simplicity of the process:—

"Take a spoilt negative, and clean off the film carefully; place the print which it is desired to mount behind. If mounted in optical contact the appearance will be improved, but this is by no means necessary. Then fix the ring and tag to one of the cardboard backs near the edge, and for portrait or landscape way according to the print. Now take a "Vista" mount, and thoroughly paste it over behind. Then lay the glass, print, and back on the top of it, being careful to centre it accurately, and turn over the flaps. The slits in the mount are to admit the passage of the ring without tearing. Thin glue might be used in the place of paste. If the mount does not stick easily with paste, damp the front until it becomes pliable, and then apply the paste behind. All sorts of pictures and photographs can be mounted in the "Vistas," but a little taste should be exercised in choosing the particular pattern of mount which suits the subject."

Mr. William Crooke, photographer, 103, Prince's Street, Edinburgh, has been awarded the gold medal for portraiture at the summer exhibition in the Corporation Art Gallery, Derby. This is the second gold medal gained by Mr. Crooke during the last few months, the previous one having been gained at the Crystal Palace, London.

"Amateur Photographer," 1891, Lantern Slide Competition (Fourth Year).—Prizes: Gold, Silver, and Bronze Medals, and Certificates in each class. Competitors to enter only one class; every competitor to contribute ten slides, and a "lantern slide portrait" of him or her self.

CLASS I.—Landscape, Sea Pieces, and River Scenery, with or without figures.

CLASS II.—Portraiture and Figure Studies to include in-door or out-door pictures.

CLASS III.—Architecture, Interior or Exterior.

CLASS IV.—The Fine Arts, which may include copies of Pictures, Engravings, Sculpture, Art Metal Work, China, Bric-a-Brac, etc.

NOTE.—Every Competitor must send descriptive Notes.

Past prize-winners will be awarded "Niece" or progressive medals, should they win a medal of the same value as that which they have been awarded in past Lantern Slide Competitions.

All slides must be received on or before the 30th September, 1891.

RULES, CONDITIONS, and ENTRY FORMS will be forwarded on receipt of stamped addressed envelope. The application should be endorsed, "LANTERN SLIDE COMPETITION," Editor, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C.

Societies' Meetings.

Cambridge.—A most interesting paper on "Optics" was read before the members of this club on the 7th inst., by Mr. W. H. Hayles. The lecturer gave practical demonstration of some part of his subject, dwelt upon the theories of light to a considerable extent, and devoted some time to the manufacture, principles, and defects of photographic lenses. Some discussion having taken place, a vote of thanks was accorded the lecturer for his valuable paper.

Croydon.—A Saturday to Monday excursion has been arranged for 18th July, leaving Croydon in the morning and returning Monday evening. The route will be *via* Portsmouth to Sandown, where the party will be met by the President. Shanklin, Luccombe, Bonchurch, and Ventnor will be visited if the weather is propitious. Return tickets at specially reduced fares, and full information, can be obtained of Mr. G. R. White, Hon. Sec., 55, Albert road. Those who wish to do so can return on Sunday evening.

Edinburgh University.—A meeting was held on the 7th inst., Dr. Drinkwater in the chair. After some formal business, Professor Crum Brown (hon. President) gave a lecture on the "Chemistry of Intensification." The lecturer discussed various methods of intensifying, but dealt principally with a method suitable for negatives of black and white subjects, where great paucity was required. His method was fully described, and the suitability of it for restoring faded prints was pointed out. A brief discussion followed. Mr. Aytton, the adjudicator in the monthly competition, gave in the report in the prints sent in. Dr. Drinkwater exhibited some prints on Alpha paper, which had been exposed for very long periods, to show the range of colour obtainable.

Hackney.—The forty-eighth ordinary meeting was held on the 9th inst., Mr. Beckett in the chair. Mr. B. Foulkes Winks read a very exhaustive and interesting paper on the "Details of Silver Printing," going through all its stages, from sensitising the paper to the mounting of the finished print. On the 11th inst. there was an afternoon excursion down the river with hand-cameras.

Holborn.—At the meeting on the 10th inst., Mr. T. O. Dear (Vice-President) in the chair, Mr. E. Clifton gave the members a few hints on the method of "finishing the negative." He had found that amateurs took a great deal more trouble in developing their negatives than professionals, but in fixing and washing they reduced the careful developing to *nil*. While the plate was in the fixing bath they would look at it every now and again and admire. The air acting upon the silver caused the film to turn a sickly yellow, and the result was flat negatives. Speaking of the final washing, he said a negative not thoroughly washed was very liable to damp, to say nothing of fading and other kindred evils. He finished his excellent hints by some remarks on reducing and intensifying. An interesting discussion followed, chiefly on reducing and packing of exposed plates on a tour. After the usual votes of thanks the meeting separated.

Liverpool.—The ordinary meeting of the Camera Club was held on the 8th inst., Dr. Cecil F. Webb, B.A. (President), in the chair. In the unavoidable absence of Mr. Jos. Davies, who had promised a paper on "Photographic Chemistry," Mr. W. Anderson Brown kindly took his place, and gave his experience in the working of the aristotype and Obernetter papers, after which a dozen members entered into discussion on their merits. Mr. Hawkins, Mr. Herbert Jones, and Mr. W. A. Brown then handed round prints from negatives taken on a previous excursion to Storton and Bebington, the gentlemen being congratulated on the excellent results obtained. Arrangements were then made for an excursion to Ingelton on the 15th July, and to Bidston on the 25th, which brought an enjoyable evening to a close.

Morley.—The monthly meeting of the above was held on the 7th inst. It was resolved to form a loan collection of lectures, prints and slides in view of federation. A ramble to Ingelton will be made on the 18th inst., a diploma to be awarded for the best set of pictures.

North London.—At the meeting on the 7th inst., Mr. Tanner in the chair, Mr. Hudson exhibited a lens in which he stated that he had improved the marginal definition, which had been imperfect, by placing a stop on each side of the lens close to the glass, in addition to using the ordinary diaphragm. The Chairman showed some excellent proofs of snap-shot views taken from a steamboat on the Thames. Proofs of the flash-light pictures taken at the last meeting by Mr. Hudson with his continuous flash lamp, "The Kohn," were then shown. These had been printed by Mr. Oakley, and for pictures taken under such rough conditions were all that could be desired. The Secretary read a paper entitled "Leaves from My Note-book, and How I Use Them." In his introductory remarks, Mr. Clarke pointed out the many valuable hints which lie scattered up and down in the pages of photographic journals, both ancient and modern, embedded, as it were, in a mass of most valuable scientific information, the latter of which, though valuable in its way, was not of so much practical use to the every-day work of the amateur as these hints were. He also pointed out the enormous number of

valuable lessons that were learnt in daily practice and at the meetings of our photographic societies. He showed that amateurs, working as they mostly do alone at their practical work, always require by their side a guide, philosopher, and friend, who may give them at all times just that help which will get them over a difficulty, and no more. He drew attention to the practical use of such works as "Wall's Dictionary of Photography" to the column entitled "Practical Work" in the *Practical Photographer*, and the many invaluable hints in the columns of the *British Journal of Photography* and the other photographic journals. It had been his practice for years to copy all the hints which he knew to be invaluable in daily practice, after testing them, into note-books, which he kept always by his side in his work-room, so that when at fault in any subject he had but to turn to the pages of his note-book and he could always find something which would put him right. The reader then proceeded to open his note-books, and from their pages demonstrated that in any branch of photography, from focussing the picture to its completion, enlargement, or conversion into lantern-slide, he had secured some of the most valuable notes extant, the directions in every one of which had been tried and proved to be effective before being entered in the note-book.

North Middlesex.—At the meeting on the 10th inst., Mr. H. Smith in the chair, this being the opening night of the new session, the meeting partook somewhat of the nature of a *conversazione*. Objects of interest were passed round for inspection. The Thornton-Pickard and Automatic time and instantaneous shutters were shown and thoroughly discussed. Cameras were shown by Mr. Braine and Mr. Gill. An ingenious printing frame to be used in combination printing, or for making lantern slides by contact from selected portions of a larger negative, was shown by the President. The Secretary acknowledges receipt of copies of the *AMATEUR PHOTOGRAPHER* and the *Optical and Magic Lantern Journal*, also descriptions and price list of various goods and appliances which were distributed among the members. Mr. H. Barry exhibited his new printing meter for use with platinotype paper to be tested and reported upon by the members. The usual competition of prints taken at the Society's field-days was then held. Mr. H. Smith received the vote of merit for views of Enfield and High Beech. The President, Mr. J. W. Marchant, then addressed the meeting. Having given valuable advice to beginners on the choice of apparatus, and the best method of conducting photographic manipulations, he strongly urged the members to identify themselves with the Society and to cultivate a closer acquaintance with each other. He pressed upon them not to hoard up knowledge, but to impart it freely to each other, and upon those beginning the study of photography to make known their difficulties and to ask for information, and upon all to offer suggestions to the Council, tending to make the Society more useful. A discussion followed upon the same lines, the members pledging themselves to maintain the spirit of good fellowship which has always been a feature of the Society. Four new members were elected. A vote of thanks to the President and the Chairman concluded the business.

Oxford.—At the meeting held on the 7th inst. the members were welcomed into the new rooms. This step will develop some of the latent energy, and doubtless increase the interest in the meetings. The President, who was in the chair, brought quite a stock of literature for members' use. It is requested that all communications should be addressed to the Hon. Secretaries, Photographic Society, 136, High Street, Oxford.

Richmond.—At the ordinary meeting on the 10th inst., Mr. Ennis in the chair, the subject of hand-camera work was discussed. The outing to Windsor, fixed for Saturday, the 11th inst., was postponed to Saturday, the 18th inst., in consequence of the derangement of the train service caused by the Volunteer Review at Wimbledon.

Rotherham.—The monthly meeting was held on the 7th inst., Mr. E. I. Hubbard (Vice-President) in the chair. One new member was elected. The members' exhibits included two negatives of lightning by the Treasurer, and prints and negatives by Mr. W. Mason and Mr. Rackstraw. It was agreed that the second excursion of the season should take place on Saturday afternoon, July 18th, the resort selected being "Roche Abbey." The Chairman introduced the subject of "Holiday Equipment," and a serviceable discussion followed. The *AMATEUR PHOTOGRAPHER*'S "Seascape and River Scenery" competition prints were displayed on the walls, and a long and critical examination of the work was made.

Sheffield.—The ordinary meeting was held on the 7th inst., Mr. B. J. Taylor in the chair, when the secretaries announced the receipt of an invitation to send a delegate to the photographic convention now being held at Bath. Mr. T. J. Hibbert brought for inspection the Automatic Hand Camera, by G. Houghton and Son, fitted with one of Wray's lenses. Several members brought copies of prints taken at the recent excursion to Lincoln. Mr. E. Beck gave a practical demonstration on "Platinotype Printing" by the hot bath process, which was a great success. It was also arranged to have Saturday afternoon excursions as heretofore. After votes of thanks

to Mr. E. Beck, the meeting separated, having spent a very pleasant and instructive evening.

Southport Social.—On the 8th inst. the usual weekly meeting was held, when a large number of members were present. Mr. De Pree (a member) gave a demonstration on "Bromide Printing," illustrating same by suitable specimens. This was much appreciated. Three new members were elected, viz., Mrs. Moore, 6, Lord Street West; Master Quayle, Scarisbrick New Road; and Mr. Marsden, Arbour Street. On Saturday an outing to L'arbold was arranged.

Staff. Potteries.—At the monthly meeting, held on the 7th inst., Mr. S. Crosse in the chair, the evening was occupied by the criticism and inspection of the *AMATEUR PHOTOGRAPHER* River Scenery Competition Pictures, the medal given in the above competition being won by one of the vice-presidents of the society. The secretaries announced that there would be no meeting in August, but a general meeting would be held in September to arrange the winter programme.

Sydenham.—The usual fortnightly meeting was held on the 7th inst., the President in the chair. A paper was read on "Home Portraiture" by Mr. G. Goldfinch. Some valuable suggestions were given as to the lighting of the subject. He mentioned that a plaster bust was a very good object to try effects of lighting on, as it could be placed in what ever position wished for without tiring the sitter. He also went fully into various "dodges" to be resorted to in default of a studio, described the lens and camera, the best plates and developers to use, backgrounds, etc., etc.

West Surrey.—The usual fortnightly meeting was held on the 8th inst., a fair number of members being present. Members handed round prints from their negatives, taken on the recent outings to Ewell, Kingston, Chingford, and Gomshall, those of Mr. Graham being particularly admired. A general discussion followed, in which Messrs. Powell, James, Martin, and Clarke took a prominent part.

Wolverhampton.—The usual monthly meeting was held on the 7th inst., the President (Lyons Wright, Esq.) in the chair. The rules of the society having been revised by the Committee, were read before this general meeting and passed. It was decided to hold an exhibition of photographs in the autumn, to be confined to members of the Society. Mr. E. C. Middleton, of the Birmingham Photographic Society, was unanimously elected as an honorary member of this Society. Mr. W. D. Welford was proposed as a member. Mr. L. W. Derrington read a paper on "Shutters." The President handed round prints taken with the "Talmer" hand-camera, after which the usual votes of thanks closed the meeting.

York.—At the monthly meeting on the 7th inst., Mr. G. Pawson delivered a highly interesting and instructive lecture on "Intensification." After explaining certain chemical terms, such as base, salt, radicle, affinity, and substitution, which he would have occasion to make use of, he proceeded to state that there were three entirely distinct methods of strengthening the photographic image contained in the gelatine film of a negative. As is generally known, the image is formed of metallic silver in a very fine state of diffusion, and it can be rendered more vigorous by (1) the piling on of more silver, thus making the deposit thicker; (2) by the substitution for the silver of some other metal having greater opacity; or, (3) by changing the colour of the deposit, and thus making it more non-actinic; all these methods having much the same practical effect. Passing by the first method, which though theoretically the most perfect, is in practical work with gelatine negatives found wanting, he stated that when a negative is treated with a solution of mercuric chloride (the well-known poison-corrosive sublimate), which is composed of two atoms of chlorine and one atom of mercury, a chemical action takes place, the result being that the mercuric chloride gives up one of its atoms of chlorine to be united with the silver in the film and two substances are formed, silver chloride and mercurous chloride (the latter being better known as calomel, the basis of the familiar "blue pill"). Both these compounds being white, this process is generally termed "bleaching" the negative, and forms the starting point in all methods of intensification by "substitution." Now, although the thickness of the deposit has been increased, yet when viewed by transmitted light its transparency is greater, owing to the absence of colour, and the next operation is to restore the original black or brown tint. This may be effected in several ways, but the three substances most used and which are each different in their chemical action, are ammonia, sulphite of soda, and ferrous oxalate. The lecturer then dealt fully with the action of ferrixyanide of potassium and uranium or lead nitrate, the effect of which was to render the colour of the deposit more non-actinic. He also briefly touched upon the reducing powers of the ferrixyanides and other chemical reactions connected with his subject. After answering sundry questions, he resumed his seat, having spoken over an hour. The hearty thanks of the meeting were accorded to Mr. Pawson for his very instructive lecture, the experiments made during its progress, and the use of the blackboard for illustrating the chemical equations having added very considerably to the enlightenment of the members.

To Correspondents.

All communications for these columns are to be addressed to **The Editor, "Amateur Photographer," 1, Creed Lane, Ludgate Hill, London, E.C.**

RULES.

1. Write clearly and distinctly on one side of the paper only.
2. Write each Query or Answer on a separate sheet of paper.
3. Write the name and address legibly on the back of each communication, and sign all Queries and Answers with name or *nom de plume*.
4. All matters for these columns MUST be received by **TUESDAY MORNING'S POST**.
5. The Editor does not undertake to answer questions by post.
6. In answering Queries, correspondents are requested to mention, in every instance, the number and full title of the query referred to.

QUERIES.

4860. **Fog.**—Can any brother in arms inform me what to use to touch out fog, due to a slight crack in corner of slide?—**PRPO.**

4861. **Blackpool.**—Will any reader be good enough to state what there is (pictorially) that is worth photographing in Blackpool and district?—**SUNESIS.**

4862. **Furness Abbey.**—Will any one be good enough to furnish me with particulars for photographing Furness Abbey? From whom is permission to be obtained, and is any charge made? Can dark-room accommodation be had near to?—**SUNESIS.**

4863. **Barrow-in-Furness.**—What are the best "bits" for photographing in this place? Is there any one who has a dark-room, who will allow it to be used for changing a few plates?—**SUNESIS.**

4864. **Ilfracombe.**—I am spending a fortnight in August at the above place, and should be much obliged for the address of a dealer who has a dark-room for changing plates, etc. Any information as to places of photographic interest at or around Ilfracombe, and distances from above, will greatly oblige.—**SILVER PRINT.**

4865. **Pembroke.**—The writer would be glad to know if Ilford plates and photographic materials can be obtained at call in Pembroke Dock, or if not, the nearest town, as I purpose spending my holidays in that neighbourhood. Should be pleased for any hints as to suitable spots to visit with a camera.—**MEMO.**

4866. **Sea Trip round Scotland.**—Can any reader advise me about photographing on board, and say which picturesque bits ought to be obtained from Liverpool to Leith, via Oban, Stromness, and Aberdeen. Is there a dark-room and facilities for developing on board? I shall also visit Stirling, Melrose, and Lanark, about which any news would be appreciated by—**R. G. B.**

4867. **Toning and Fixing in one Bath.**—Will any reader be so kind as to give me a good combination toning and fixing bath for Celerotype prints?—**GOBANG.**

4868. **Felixstowe or Aldeburgh.**—I am thinking of going to one of the above places for holidays. Will anyone be so kind as to inform me which is the best, and if good seascapes with a quarter-plate camera can be obtained? Any particulars will much oblige.—**GOBANG.**

4869. **Normandy and Brittany.**—I should be glad if anyone would tell me what sort of a reception I shall get from the natives in a tour through Normandy and Brittany, visiting St. Michael's Mount, Coutances, etc. Of course, I should not want to photograph fortifications; but I suppose no objection would be raised to my taking St. Michael's Mount, the outside of churches, general views, etc.—**F. D. S.**

4870. **Photographs in Churchyards.**—Have English clergy the right to prevent one from taking photographs in the churchyards?—**F. D. S.**

4871. **Rhyl.**—I hope to spend a fortnight at Rhyl shortly. Will any brother amateur kindly allow use of dark-room for developing? Bring my own solutions dishes, etc. Also any hints where to find views in the district will greatly oblige—**C. P. S.**

4872. **Hydroquinone.**—Can I make up a concentrated hydroquinone developer (two solutions), say about 4 oz. of each, sufficient for fifty or more quarter-plates; if so, will any reader kindly give formula?—**C. P. S.**

4873. **Instantaneous Shutter.**—Will someone kindly tell me the best and cheapest instantaneous shutter for a $\frac{1}{8}$ to $\frac{1}{2}$ camera? I only want it for instantaneous work, as I have a Guerry flap shutter for prolonged exposure.—**L. R.**

4874. **Westminster Abbey.**—I intend taking photographs in Westminster Abbey next month, and should be glad if any reader will give me a few hints on taking

interiors. Are backed plates a necessity? If so, how are they best backed and the backing removed before developing? Is it necessary to have backed plates for taking monuments? I intend taking quarter-plates for lantern slides. Any hints will oblige.—**L. J. M.**

4875. **Antwerp, Brussels.**—Can anyone recommend a good and cheap boarding house at above places, preferably with convenience for changing plates, etc.?—**AMATEUR.**

QUERIES UNANSWERED.

July 10.—Nos. 4838, 4842, 4844, 4847, 4856, 4859.

ANSWERS.

4827. **Switzerland.**—September is a very good month. Little if any difficulty with plates at the Custom House. A good precaution to put, on each packet, labels stating, in several languages, that the packets are to be opened in a dark-room only; these can be purchased ready printed of the principal London photographic dealers. Light and warm clothing advisable. Evenings yet cold at high altitudes.—**JAN.**

4828. **Gloss on Prints.**—In my answer last week, for "Oil of Spittle" please read Oil of Spike.—**PEN.**

4829. **North Wales.**—Plates can be changed at Carnarvon, at a photographer's nearly opposite the station, and at Conway in the main street, near the Castle, and principally and best at Llandudno.

4832. **Switzerland.**—Exposure is generally shorter than in England. Permission required to photograph the interiors of churches are easily obtained from the persons in charge; a small silver key always facilitates.—**MOONEN.**

4834. **Antwerp, Brussels, Rotterdam.**—Very little difficulty with the Customs if packets of plates are labelled as recommended in No. 4827. No passport for France required if British subject. So many hotels, at such various prices, that unless one knows "Fritz's" means one would hardly like mentioning. Best way always is to take a furnished room at the hotel and get meals at any restaurants in the towns. Ten francs a day is a fair inclusive charge at most good hotels. Wherever you are, avoid photographing fortifications or military posts.—**MOONEN.**

4834.—**Antwerp, Brussels, Rotterdam, etc.**—I can only speak of Normandy. I did not take a passport, it was never required. The customs gave me no trouble, but mine was only a quarter-plate camera, and so not bulky or conspicuous. Take English plates, as what they keep in France are of quite different dimensions. I had to get some cut down to quarter-plate size in Rouen. No objection was made to me photographing in the streets; but do not attempt fortifications, or you will get into trouble. In some of the cathedrals and churches I was told that it was not allowed, but I managed to get nearly all I required, partly, perhaps, because the officials did not notice me and my camera, as I kept myself as much as possible from observation. The church doors are left open all day, and there are few about to interfere with you. My most useful lens was a 4 in. focus on a quarter-plate. I have a 3 in. portable symmetrical, which is occasionally useful for church architecture, but it is too slow for instantaneous work in the streets, and the perspective it gives is generally unpleasant. All my instantaneous street scenes were successful. I used a 4 in. lens, usually at $f/8$, and a Thornton-Pickard shutter, working slow; or sometimes "at time," with about half or a quarter of a second exposure. My plates were the most rapid (except for time exposures). I used a stand, as I think that the very rapid exposures, necessitated with a hand camera, very much limits one's work. Most hand-camera work is much under-exposed when done in towns. The narrow Normandy streets are generally poorly lit. At Rouen we found the hotels dear. At other places in Normandy they were very cheap; but then we spoke French, and did not go to the large hotels. Much time is spent in travelling on the main lines, as the trains are very slow. Rouen is by far the most interesting town in Normandy, two days can be profitably spent there. Lisieux is full of interesting and quaint streets and buildings. Caen is a fine old town, with two large monastic Norman churches, a fine cathedral church, and a number of smaller churches. Two days is not too much, but one good day may be made to suffice. Bayeux is a little further off. It has a magnificent cathedral, and in the museum some fine historical tapestry. From Lisieux the train can be taken to Honfleur or Trouville. Trouville is the fashionable sea-side resort of the north coast for the Parisians. The sight in the season is said to be unique. When we passed through it was out of the season, and there was nothing of particular interest to the photographer. Steamers occasionally run from Trouville to Havre; but the most interesting and pretty route is by the coach, which runs daily to Honfleur. A few pictures may be got at Honfleur, which is an old-fashioned and quaint fishing town, and the steamer taken across the mouth of the Seine to Havre. Havre is a well-built modern seaport, containing fine buildings and wide streets, but it is not likely to detain the photographer for long. From Havre the steamer may be taken for Southampton, or the train to Rouen. A small steamer sails up the Seine to Rouen, which occupies a whole day; it is a very pretty journey. The pleasantest place to stay at on the way is Candebe-

This is a small town, with a fine church and old houses, a number of prettily situated restaurants and lodging-houses by the river-side and pleasant walks; the neighbouring country is hilly and well-wooded. Several photographs may well be taken here. A coach runs from Candebe to Yvetot, on the line from Havre to Rouen.—**A. W. D.**

4839. **Film Hand-Camera.**—The Kodak I purchased is a very good little instrument with shutter adjusted to one speed, and the lenses, in my opinion, fairly good for ordinary work; but it is useless unless you can get a good supply of spools of film. I have just much time in waiting.—**MOONEN.**

4840. Retouching.—

Ambur resin	10 gr.
Benzole	1 oz.

Dissolve, and allow to subside for 24 hours before use. You can use Hardtmuth's HHHH or HHHHHH pencils with points, sharpened by rubbing on fine emery paper, to needle-like fineness.—**PEN.**

4841. **Toning.**—Any ordinary formula would do, I should say. The following is well recommended for ordinary work:—

Chloride of gold	15 gr.
Acetate of soda	480 " (1 oz.)
Distilled water	to make 7½ oz.

For use, mix half an ounce, equal to 1 gr. gold, to half a pint of water, for every sheet of paper to be toned. The best way to prevent the bath from depositing gold is to throw it away after use, or filter and keep to add to the new one instead of water.—**PEN.**

4843. **Development.**—As a user of Paget xxx, I very often use them for shutter work, and commence with small quantity of pyro and ammonia, and work up with ammonia until all detail is out, then I add more pyro, and develop until full density is obtained.—**S. E. C.**

4845. **Westminster Abbey.**—The permit obtained from H. M. Office of Works, H. W. Prinrose, Esq., Secretary, granting permission to photograph in Royal Parks and Gardens, will also allow one to photograph the exterior of public buildings. Policemen are quite satisfied when the above permit is produced.—**L. J. M.**

4846. **Lens.**—Yes, the stops will be all right. You must remember that, by removing the front combination, you double the focus of your lens, so that the focal numbers will be also doubled, viz., $f/8$ will only be $f/16$, etc. You will thus be compelled to use smaller stops, whether you wish to or not. The results will be good enough; though, of course, "every man to his trade" holds good with lenses too.—**PEN.**

4848. **Fogged Plate.**—"Gringo" is determined to have an answer, so I will make one or two assertions, and if I am wrong someone must "smash" me. (1) A plate fogged by light, before exposure in the camera, can be cured (unless very bad) by soaking for ten minutes in the following:—

Potassium bichromate	1 part.
Hydrochloric acid	3 parts.
Distilled water	100

and it then being thoroughly washed and dried (of course, all in the dark). The plate will be found slower for this treatment. (2 and 3) The reason the books are silent as to cure for plates fogged during or after exposure is because there is no cure. Saturated alum and hydrochloric acid will remove stains and yellow veils, but genuine fog, never.—**PEN.**

4848. **Fogged Plate.**—This is an extension or multiplication of the fogged plate question of last week, and I fear I must again answer "Gringo" like a book. "Plates fogged before exposure." This is hardly likely to happen, unless the light got to them in some careless manner. The plates can be restored by being immersed (at one sweep, as if developing) in a solution of bichromate of potassium, 10 gr. to the ounce of water, for about five minutes, then in clear water for a similar period, dried in a cupboard or box where actinic light cannot enter, and finally put in their dark slides. "Plates fogged during exposure." Surely this cannot happen unless light gets into the camera; cracks in bellows, ill-fitting slides, or blacking worn off the inside of lens tube, or again a defective shutter. "Plates fogged after exposure." Here "Gringo's" collection of books will help him. His developers are not carefully mixed, or else, much more probably, his light is not a safe one. Taking a plate out of the developing dish and holding it too often or too long to the light will fog it, especially if an isochromatic one. Fog has no right to exist on any plate that has been carefully exposed and developed. The most complete photographic library is useless if care in manipulation be not observed. Two books are sufficient for me, "Burton's Manual," and "Wall's Dictionary."—**MOONEN.**

4849. **Yorkshire.**—If "Sutton" likes to write to me, I will most gladly give him all information I can for his tour.—**PEN** (address with Editor).

4850. **Stand for Hand-Camera.**—I should recommend Watson's Cyclist tripod.—**PEN.**

4850. **Stand for Hand Camera.**—Robinson, 172, Oxford Street, has a capital walking-stick tripod, rigid when set up, and light enough to use as a walking stick; price 21s.—**EXPERIENTIA DOCTE.**

4850. **Stand for Hand-Camera.** I can strongly recommend the Alpenstock stand made by Harger Brothers, Settle. It is in the form of a round pole cut into three sections and held together by three leather rugs. Each section forms a leg and is braced, when

attached to the tripod head, by the same leather rings. I have had one in use for two years, and found it simple to set up, light, and strong. "Sutton" could doubtless procure one cut to walking-stick length. I reduced mine to that size, and although the camera is rather low, I find a swing-back (very necessary on a hand-camera, but rarely fitted) and a short focus lens enable me to take any building. —H. W. B. BRUNO.

4551. **Ruby Varnish.**—Reynolds and Branson, 14, Commercial Street, Leeds, sell "Ruby Varnish" specially for glass, also "Liquor Nettoyant" for cleaning glass. —PEN.

4552. **Mounting Jacoby's Chloride Emulsion Paper.**—When you have squeezed down on to glass or vulcanite, and before the print is quite dry, apply your mountant to the back, place the mount in position, squeeze vigorously, and, when dry, the mount and print will strip off together, leaving the former with the full gloss (if glazed) on it. —PEN.

4553. **Page's Prize Plates.**—The best developer to use for all plates is that recommended by the makers. Development should be continued till the subject can be plainly seen on the reverse side of the plate. Your light shadow on the plate is probably the edges of the dark-slide, and not anything to do with the packing. —PEPO.

4553. **Page's Prize Plates.**—As a user of both xxx and xxxxx, I find them very good, and develop easily with 10 per cent. pyro, bromide, and ammonia on slow, gradual system of development; time taken to develop, 20 min. to 30 minutes. I have never found anything wrong with the packing of these plates; in fact, some of our large makers should take a lesson from them. I should say that they require developing a little further than most plates, as they are thickly coated. —S. C. E.

4554. **Broken Opaline.**—I have just had a similar case. I took it to a professional, who said that he greatly doubted whether anything could be done, but soaking in hot water would be the best remedy to try. —PEN.

4555. **Lens.**—See my answer to No. 4846 this week. —PEN.

4555. **Lens.**—I have a Wray 5 by 4 R.R. lens, Iris diaphragm, and its focus is $\frac{5}{8}$ in. You can use either back or front combination of its lens as a long-focus lens of about 11 in. focus, but the action will be twice as slow. —S. E. C.

4557. **York, Peterborough, and Durham.**—Permission to photograph the interiors would, I have no doubt, be granted by the respective Deans. You mention Whitby, an excellent place for fishing boats, also an old church and abbey (charge to photograph the latter, is, payable at the lodge close by). Lovely "bits" of moorland and river scenery can be obtained at Sleights, Gosmont, Goathland, Ghaile-dale, and Egton Bridge (see the "Beggar's Bridge," $\frac{1}{2}$ miles from here), all within easy reach by rail. —PEN.

4558. **Shutter.**—It depends on the size. Lancaster's See-Saw is, half-plate, four price, or their quarter-plate pneumatic. —PEN.

4558. **Shutter.**—The best shutter (cheap) is Tyler's up-and-down shutter, which is regulated by india-rubber bands. For time exposures, work it with the finger. The prices run from 1s. 6d. upwards. —PEPO.

EDITORIAL.

SPECIAL NOTICE.—We are very pleased to find that replies in this column are so much appreciated, but we should be very grateful if those requiring advice would send their letters to us BEFORE TUESDAY MORNING'S post if possible. The time occupied in replying in this column is very considerable, and owing to the often late receipt of letters, many matters have to be left over each week. This we much regret. —ED: AM: PHOT:

MUTE.—Negative No. 1: Correctly exposed, but not developed long enough. Had you used merely the back combination of your lens, your results would have been better; the expense of water is not of sufficient interest to warrant half the plate being devoted to it. The best thing you can do now is either to intensify the negative or else print on matt-surface gelatin-chloride paper under green glass or one or two thicknesses of tissue paper. No. 2: Correctly exposed, not developed enough, print not printed deep enough. See note to No. 1. No. 3: You should have used a longer focus lens or back combination only; a backed plate, or one more thickly coated, would have obviated the halation at top. No. 4: Too much pyro and bromide in the developer has given you dense high lights. Coat the back of the bridge with yellow matt varnish, or bromide paper would give you a good result. No. 5: Good but for the stains, which are due to dirty fingers. You are using too much pyro and bromide in your developer, and not developing long enough. Let us see some more work presently.

COMO.—Your prints are perfect libels on the sitters. The only one which is fair is No. 4, and this would have been improved if the sitter had been straight. No. 7 is the next best; the others are dreadful. You are using too much top light. Note the heavy shadows under eyebrows, noses, and chins, and especially under the hat, in No. 5. You are also inclined to under-expose, and use too much pyro and bromide in your developer. The lens should do group work well. Do you want your prints back? If so, send on stamped addressed envelope.

E. C. L.—Probably you do not wash your prints between toning and fixing, and do not make the fixing bath alkaline.

QUESTER (anonymous).—(1) When the single combination of a doublet R.R. focus is doubled, ratio aperture of stop halved, and the exposure quadrupled; therefore you must give four times the exposure. (2) We have already had a leader on copying, only a fortnight ago; please see. (3) Gelatine plates can be backed in a weak alcoholic solution of erythrosin, then washed and dried, and they will give more correct colour rendering than before. (4) Black tones are not dependent on the toning bath, but on the negative. Try printing under green glass on matt-surface, and use the combined uranium and gold bath which we have recommended in this column this week.

Fritz.—If you will forward us your address, which has been mislaid, a correspondent will be glad to give you information re Belgium and Brittany.

R. S. TRESILLIAN.—In about a fortnight. All prints will be returned next week.

F. H. SMITH.—We will send our form to the proprietor. We have four dark-rooms in the town at present.

F. LORD.—Your letter duly noted.

CAPT. J. S. HENDERSON.—We will make the enquiries and write you direct.

E. KITTO.—Received with thanks.

JAMES B. WILSON.—Many thanks. Will send proof. **MRS. MARGARET WILSON (Florence).**—Eight photographs duly received in good condition for "Ladies' Second Photographic Competition."

H. LEACH.—Thanks for your kind offer of an article for "Holiday Resorts," which we gladly accept.

CHAS. SEVERN.—They are all first-class lanterns. You will perhaps find No. 2 the most compact.

J. F. HEWITT.—Send us three dates. We are booking the 1892 AMATEUR PHOTOGRAPHER Lantern Slides. Sorry your instructions about sending photographs were not complied with.

C. C. MACKLEY.—In preference to the plan suggested in the "Dictionary," use the following: Dissolve 1 part of chrome alum in 100 parts of water, add sufficient solution of ammonia till a permanent precipitate is formed, then filter, and immerse the prints in it, wash well and tone, then put in soda solution 1 to 20, and then fix in hypo 1 to 6.

SNIFE.—The Quadrant (Humphreys), Miall (Fallowfield), Dine's Patent (Griffin).

H. S. W.—Letter by post.

ELCHO.—The arrangement of your group is by no means pleasing. Your sitter in the middle has two balancing lines in his arms, exactly in the same position. This arrangement is repeated in the arms of the two young ladies, and again in the pose of their heads. The whole is far too stiff and formal. You were sufficiently near your sitters to cause you to rack the lens out at least $\frac{1}{4}$ in. beyond the focal length; hence the aperture would be proportionately reduced, and it must be a very poor lens that would not cover at that aperture. The R.R. lens you name is a reliable instrument, but would only be superior to your present lens because it works at a larger aperture. We are always pleased to criticise prints. If you like to send a stamped addressed envelope, we will return your print marked with the lines of your composition, when you will see what we mean.

H. MOLYNEUX.—Print much deeper, and use the acetate bath, only without the borax, allowing it to stand 24 hours before use. Let us hear from you again.

T. HALL.—Obtain 2 oz. of acid sulphite solution of soda, add to it 7 oz. of distilled water, and pour on to the pyro, then make the solution measure 9½ oz. by adding distilled water; this will be a 10 per cent. solution of pyro. Take 1 oz. of your solution of gold, add a pinch of chalk to it, shake it up, allow to stand an hour, pour off the liquid, add 1 oz. of solution of borax, and make up to 8 oz. of water, and the bath is ready for toning.

D. E. GODDARD.—Will do as you wish. Thanks for letter.

WILLIAM BOTTOM AND ARTHUR NICHOLSON.—We will criticise next week.

W. HERBERT.—Please write explicitly which competition photographs you refer to. Will you kindly write the publishers about the Reporter?

DEBRINGER.—If you want a cheap magazine camera, we place D first; then in the following order, C, B, A. The single lens sold with D and C will do good work with either camera, time or instantaneous exposures can be given.

SHIVINE.—It will be quite possible for you to get a good photograph with the hand-camera you name; it is well made and wonderfully cheap.

BRAY LODGE.—Very many thanks for photographs, which we will use as you suggest.

JOHN SINCLAIR.—We cannot answer your enquiries about the 1880 pattern, but should certainly advise you to go for the 1891, which is a very first-class camera.

G. R. DAWSON, WM. COLLS, R. PARRY.—Forms duly received, for which many thanks.

EDWIN SMITH.—Many thanks for the table, which we will use shortly.

C. P. STOW.—Your encaustic paste is too stiff; add a little more benzole to it, then warm before use. We cannot obtain a green tone on your paper, but will try again.

MOXHOUSE.—This is probably chemical fog, due to

the material of the bing. Send the slides back to the maker, who should replace the harmful by some innocuous material free of charge.

F. D. S.—Your spots may possibly be caused by particles of the chloride of calcium having fallen on the paper. You should have forwarded us a piece of unexposed paper. Write to the makers and ask them.

H. R. KINGLAKE.—(1) We should have preferred a little more bromide in the developer for our own use. (2) For over-exposed plates, use 2 gr. pyro, 2 gr. bromide; flood the plate with this, and add the ammonia in very infinitesimal doses at a time. (3) The question as to whether plates suffer by keeping before development is not satisfactorily settled; we have found a tendency to flatness. (4) Certainly it can do harm to leave the negative with all the hypo in it, but it may be left soaking in water without harm. (5) Underwood's, Thornton-Pickard, or Lancaster's Chronolux would answer your purpose. (6) Page's xxxxx will be the most suitable; give cap on and off as quick as you can work it. Use as large a stop as will give you sufficient sharpness. Develop the plates as usual. We may possibly have an article on your subject presently. Always pleased to help you.

F. E. R.—The discolouration of your prints is caused either by the prints sticking together or else by coming into contact with metal. Add sufficient ammonia to your fixing bath to make it smell strongly of it. See that the hypo is the same temperature as the toning bath. Let us hear from you again.

Sale and Exchange.

RULES.

CHARGE.—Twelve words or less for Fourpence.

Every additional three words, one penny. The name and address of the sender must be paid for. (A single figure, or group of figures undivided by letter, space, stop, or words, counts as one word; compound words count as two words.)

PAYMENTS should be made in Postal Orders or Postage Stamps.

ADDRESS.—All advertisements (which can be received up to Wednesday morning, 5.0 a.m.) and other communications having reference to the "Sale and Exchange" column, must be addressed "Sale and Exchange, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C."

DEPOSITS.—The money for goods forwarded on approval may be deposited with the Publishers of the AMATEUR PHOTOGRAPHER, who will hold the amounts deposited until they are satisfied that the transaction has been completed to the satisfaction of buyer and seller.

COMMISSION.—A charge of 2½ per cent. will be deducted from all deposits whether a sale is effected or not.

PAYMENT.—All payments are to be by cheques or Postal Orders, made payable to Hazell, Watson, and Viney, Ltd., 1, Creed Lane, London, E.C.

REPORTING.—Apparatus may be sent to the Editor, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C., who will report upon the apparatus to the buyer for a minimum fee of 2s. 6d., or a commission of 2½ per cent., upon the sale price of the apparatus.

CARRIAGE must be paid on all apparatus sent for report, and they will be returned carriage forward.

ADVERTISEMENTS can be inserted under a number, the name and address being registered, and letters forwarded for a fee of 3d. to cover postage.

Backgrounds.—Background, pretty design, professional, full size; 20s.; photographs, two stamps.—Artist, 7, Dereham Road, Norwich.

Bicycle.—Safety, cushion tyre; £7 10s.; balls throughout; best maker; worth double.—Cyclist, 7, Dereham Road, Norwich.

Cameras, etc.—Half-plate camera, all movements, in good condition, approval; also Watson's sliding stand, £4.—L. Cator, 2, College Grounds, Malvern.

Half-plate Optimus camera, square leather bellows, reversing back, and one slide; 25s.—Arthur, 10, Dunsford Villas, Merton Road, Wandsworth.

Polished mahogany half-plate camera, all movements, nearly new, one double back; 42s.—Middleton, 2 and 3, Aldgate, E.

12 by 10 Multum-in-Parvo enlarging camera, new; exchange for whole-plate camera; will give a little cash.—G. Harrop, Horbury Road, Ossett.

Cameras, Lenses, etc.—Whole-plate camera, three backs, long-focus, all movements, cost £7 Army and Navy, good as new, price £5 10s.; Ross R.R. lens, 75s.; also several sundries.—No. 186, AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.

Condenser, etc.—For sale at once, 8½ in. condenser, new, £2; Marioni's Parcel camera, with twelve bags, £3; approval.—Apply, Amateur, 16, Lansdowne Gardens, S.W.

Dark Slides.—Three metal and one wooden dark-slides, for Lancaster's half-plate 1890 Instantograph, 15s.—F. Worton, Blenheim, Mon.

Three metal slides, 5s. 6d.; three wooden slides, 6s. 6d.—Cartledge, Glossop Road, Sheffield.

Hand-Cameras, etc.—No. 1 Kodak, perfect condition; price £3.—H., 74, Oakley Square, N.W.

Lenses, etc.—Lancaster's half-plate instantaneous lens and shutter, Iris diaphragm; bargain, 12s. 6d. cash.—Platt, Brunswick, Ashton-under-Lyne.

Optimus Euryscope, 9 by 7, cost £6 6s., take £4 5s.; whole-plate tripod, cost 25s., 9s. 6d., half-plate changing bag, cost 16s. 6d., 5s.; interior background, flatted oil, cost 30s., 10s. 6d., all new.—Oliver Street Studio, Grimsby.

Lancaster's half-plate Instanto lens and shutter (1889) for sale; price 18s. 6d. — L. Perrett, 4, The Cedars, Clapham, S.W.

For sale, Lancaster's half-plate Instantograph, latest improvements, all extras; bargain; particulars.—Cave, Alexandra Road, Northampton.

7 by 5 London Stereoscopic Co.'s R.R., fine condition, cost 60s., price 38s.; 7 by 5 R.R., quite new, 27s., fine instrument; approval.—Avery, 45, Park Street, Dorset Square, London.

Half International tripod, Lancaster's lens and shutter, Iris, view-finder, level, three slides, in canvas case, £4 10s.; also Wood's half R.R., with White's pneumatic shutter to fit above, £2; the lot £6.—Linsdell, 41, Dangan Road, Wanstead, E.

8 by 5 Grubb R.R. lens, Iris, almost new, 70s.; half-plate Taylor and Hobson's Casket set, R.R. and rapid view, Iris, in case, new, 70s.; half-plate Wray's wide-angle rectilinear, new, 50s.; whole-plate sliding-leg tripod, cost 30s., price 10s.; nearest offers will be considered.—6, Montford Place, Kennington Green.

Organ.—Grand American organ, 11 stops, couplers, two knee swells, solid walnut, 6 ft. high, fitted music cabinet, lamp rests, bric-a-brac shelves; £14.—Photo, 30, Dunlace Road, Clapton, London.

Sets.—Whole-plate bellows-body long-focus camera, brass-bound, one double dark-slide, 10 by 8, Morley's rapid rectilinear lens, screw adjustment, etc.; sell cheap, or accept half-plate part exchange.—Perry, St. John's Road, Chelmsford.

Half-plate camera, double extension, every movement, three double backs, stand, and lens complete; exchange for modern tricycle or Safety bicycle.—Timms, 13a, New Inn Hall Street, Oxford.

Half-plate camera and tripod, 25s.; Lancaster's quarter-plate wide-angle Rectigraph lens, 16s.; case for half-plate camera, 5s.; changing bag, 1s. 9d. — 2, Orisdale Terrace, Cheltenham.

Lancaster's quarter Instantograph camera, lens, tripod (slightly damaged), Thornton-Pickard shutter (time and instantaneous), focussing cloth and glass, finder, changing bag, three double backs, good condition; 75s.; cost 92s.; or exchange for Talmer, Facile, or other good hand-camera, not cheap patterns.—Michie, Royal Bank, Hamilton.

Half-plate Optimus long-extension camera, three double slides, Optimus R.R. lens, sliding stand, as new, cost £10 14s., price £8, approval; Lancaster's half Instanto 1890 camera, lens, stand, etc., complete, nearly new, 70s.; Optimus 7 by 5 rapid; Euryscope, 77s. 6d., cost 94s. 6d.; Watson's half-plate Tourist camera, three double slides, Watson's R.R. lens (Iris), stand, etc.,

cost £13 10s., price £10 19s. 6d., as new.—Parlby, Mansel Street, Swansea.

Underwood's President half-plate camera, R.R. lens, six double slides, bag, and all accessories.—Jones, Enfield House, Uffculme, Devon.

Half-plate Sands and Hunter's camera, cost £7 7s., price £3; Ross R.S. lens, 7½ by 4½, cost £5 5s., price £3; folding tripod, cost 27s. 6d., price 15s.; walking-stick ditto (by Robinson), 12s. 6d.; enlarging lantern (Watson), 6 in. condensers, cost £6 15s., price £4; all excellent condition.—Miss Payne Galloway, Thirkleby Park, Thirsk.

First-class whole-plate camera, every modern improvement, double extension, swing and reversing back, rising and loose fronts, best leather bellows, brand new, only used twice, fitted with three double dark-slides; only 95s., or, with Hockin's landscape lens, 105s.; a bargain; or exchange.—S. Dalby, 35, St. Thomas Street, Weymouth.

Full-plate set for sale, excellent condition, best make throughout.—Executur, Florence Villa, Portswold, Southampton.

Exhibition half-plate set, perfectly new Optimus lens, three double backs, pneumatic release shutter, patent circular tripod; the lot for six guineas.—Wells, 114, High Street, Kingsland.

Lancaster's quarter-plate camera set, everything complete, new, 30s.; two new gas-bags, half-plate portrait lens, £2; interior background, £1.—Camera, Heyside, Royton.

Robinson's quarter-plate double extension camera, three double dark-slides, rapid Euryscope f/6 lens, folding ash tripod; exchange good 10 by 8 R.R. lens, or sell cheap.—G. A. Knight, High Street, Seaford, Sussex.

Underwood's whole-plate Instanto camera, three double slides, two carriers, extra front in lock carrying case, shoulder strap, quite new, cost £7 7s., price £5 15s.; two double slides (by Watson), to fit above, 25s., cost that each; Ashford's patent tripod, 6 in. top, 15s.; all as new; approval pleasure.—Avery, 45, Park Street, Dorset Square.

For immediate sale, owner going abroad. Lancaster's Instantograph 1889, half-plate, lens, shutter, stand, three double dark-slides, carrier, finest order, £3 10s.; also camera case, frames, trays, racks, mounts, etc., entire plant of amateur, cheap.—Wilcox, Eden Place, Kingston-on-Thames.

Half-plate 1891 Instantograph, dark-slide, tripod, and rapid rectilinear lens, equal new; only 67s. 6d.—H. Rowe, Wallbridge, Stroud, Glos.

Sundries.—Marion's enlarging apparatus, complete, with special draw-out table, perfect.—Jones, Enfield House, Uffculme, Devon.

Complete assortment of bottles with chemicals, glass funnels, four trays, and various sundries, to be sold for 15s.; very cheap; seen by appointment (London).—No. 185, AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.

Wood's whole-plate washer for prints and plates, new; 13s.—Frere, 12, Eversley Street, Liverpool.

Gem air-gun, good condition; 12s. 6d.—Frere, 12, Eversley Street, Liverpool.

Watkins' exposure meter, new; price 8s. 6d.—Naylor, 77, Cadogan Square, S.W.

Eclipse ruby developing tent; cost 35s.; price 12s.; in good order.—Naylor, 77, Cadogan Square, S.W.

Tricycle.—Marlborough Club tricycle, balls everywhere except pedals, with Quadrant spring camera-carrier, lamp, etc., all in thorough working order; £6; seen by appointment.—W. Anderson, 46, Warwick Gardens, London, W.

Tripod.—Alpenstock tripod, perfectly rigid, carry quarter or half plate, new; price 10s., carriage paid.—Hyde Parker, 77, Burton Road, Derby.

To tourists. Alpenstock tripod, very rigid, splendid condition; only 7s. 6d.—Young, 19, Lambourn Road, Clapham, S.W.

WANTED.

Cameras, Lenses, etc.—Quarter-plate camera, with or without lens, and walking-stick tripod; state length of camera and maker.—Box 5, P.O., Stirling.

Changing Boxes.—One or two Lancaster's patent changing boxes, to fit Omnigraph camera, cheap.—A. E. Reingspach, Langham Hotel, London.

Hand Cameras, etc.—Key camera, if cheap and in good condition; approval; particulars and lowest price.—P. E. 28, Halford Road, Richmond, Surrey.

Lenses, etc.—Lancaster's quarter-plate Instantograph, stand, lens, three double backs; state lowest price.—Pratt, York Villa, Hurstpierpoint, Sussex.

Wide-angle Euryscope of 6 in. focus, good maker; reasonable; approval.—Miss Annesley, Fernbank, Cheltenham.

Ross Universal Symmetrical, new series, extra rapid; state price.—Cunningham, Kames Cottage, Brodick, Arran.

Half-plate Iris diaphragm lens, metal dark-slides, Thornton-Pickard shutter, Watkin's exposure meter.—Secretary, Photographic Club, Frome, Somerset.

A 9 by 7 R.S. lens, with Iris diaphragm, must be first-class article; Ross' make preferred.—H., Cedars, Rickmansworth.

Rapid whole-plate rectilinear lens; would give a Griffiths' Guinea hand-camera and an Underwood's half-plate single lens, both new.—Sansome, 4, South Beach, Blackpool.

Half-plate wide angle lens, in exchange for dark-slides, to fit any camera.—Allen, Camera Maker, Maidenhead.

Sets.—Half-plate set, with one slide, stand, and landscape lens; price not to exceed 60s.—Approval to Mr. Wall, care of Editor, AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.

Shutter.—Thornton-Pickard time and instantaneous shutter, to fit 2 in. hood.—L. Perrett, 4, The Cedars, Clapham Common.

NOTICES AS TO ADDRESS.

PUBLISHING DEPARTMENT.—All letters containing Subscriptions, Orders, Remittances, SALE AND EXCHANGE Advertisements, or other business matters for the AMATEUR PHOTOGRAPHER are to be addressed to the Publishers, HAZELL, WATSON, AND VINEY, LD., 1, CREED LANE, LUDGATE HILL, LONDON, E.C.

NOTE.—SALE AND EXCHANGE Advertisements, at the charge of Three Words for One Penny, can be received as late as WEDNESDAY MORNING.

EDITORIAL DEPARTMENT.—All Literary Contributions, Queries and Answers, Photographs for competition or Criticism, Books or apparatus for Notice or

Review are to be addressed to the EDITOR, AMATEUR PHOTOGRAPHER, 1, CREED LANE, LUDGATE HILL, LONDON, E.C.

NOTE.—To ensure insertion, all Communications should reach the Editor on Tuesday.

CORRESPONDENCE SECTION.—Anyone wishing to communicate with Contributors can do so by forwarding such Communication in stamped envelope under cover to the EDITOR, AMATEUR PHOTOGRAPHER, 1, CREED LANE, LUDGATE HILL, LONDON, E.C.

ADVERTISEMENT DEPARTMENT.—All communications respecting TRADE Advertisements in the AMATEUR PHOTOGRAPHER are to be addressed to PARRY AND CRAWFORD, 1, CREED LANE, LUDGATE HILL, LONDON, E.C.

NOTE.—Trade Advertisements are received up to Tuesday morning.

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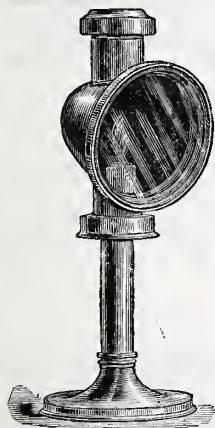
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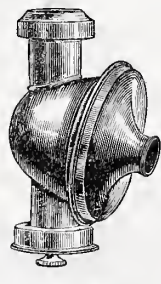
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THE "ITAKIT." The Most Perfect Magazine Camera.

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Mr. W. D. WELFORD, writing in "Photography Annual," says—"This Camera is a marvel of cheapness."

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AN INTERNATIONAL PHOTOGRAPHIC EXHIBITION

Will be held in CARDIFF,

From 12th to 26th AUGUST, 1891.

15 Classes: Gold, Silver, and Bronze Medals;
also Society Lantern Slide Competition.

ENTRIES CLOSE, JULY 31st, 1891.

Prospectus from the Hon. Secs., 127, Bute Road,
Cardiff.

THE BOOK OF THE LANTERN, By T. C. HEPWORTH, F.C.S.

A Practical Guide to the working of the Optical
(or Magic) Lantern—either as an Educational
Instrument, for Exhibition Purposes, or as an
Enlarging Apparatus for Photographers. With full
and precise Directions for Making and Colouring
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in the Country, and give special attention
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THE SCOTTISH SENSITIZED PAPER Co., 57, Hope Street, Glasgow,

Are the Sole Manufacturers of this Paper. It prints rapidly, tones to a rich purple, never blisters, and has been proved to be far superior to any other paper in the Market. We select the following from letters we are daily receiving:—*Messrs. HILLS & SAUNDERS, Photographers to the Queen and Royal Family* (by Special Appointment), *Eton, Harrow, Oxford, Cambridge, etc.*: "The paper you have been supplying us with gives great satisfaction and is quite free from blisters. Please send us one ream (20 quires) of Pink at once, and oblige."

G. I. MOORE, Litchfield, writes on June 15th, 1891: "I have tried many makers, and even those who advertise their paper better than the best, but I consider yours cannot be equalled by any. I shall stick to your paper entirely."

A. P. ROGERS, 18, Bute Street, Aberdeen, July 7th, 1891: "I enclose Postal Order for one quire. Your Paper is Superb

Quire, 14/-; ½-Quire, 7/6; ¼-Quire, 4/-; Sheet, 1/-. WHITE, PINK, and MAUVE. Cash with Order.

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Defies Competition in Price, Quality, and Artistic Results.

No. 1, 25/-

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No. 1.—Holds 12 quarter-plates automatically changed by one movement, made in best mahogany, Time and Instantaneous Shutter, Two Finders, Vertical and Horizontal. No. 2.—Same as No. 1, but with extra View Finder, same size of plate. All Amateurs should order at once for Summer Holidays. No need to take out ordinary Camera, as with this you can see exact picture you are taking. CATALOGUE TWO STAMPS.

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The AMATEUR PHOTOGRAPHER

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Office: 1, Gress Lane, Ludgate Hill, London, E.C.

No. 355. Vol. XIV.]

FRIDAY, JULY 24, 1891.

[PRICE TWOPENCE.]

OUR VIEWS.

"To hold as 'twere the mirror up to nature."—Shakespeare.

"At Home" on Monday afternoons is discontinued for the present, but it will be resumed on Monday, the 7th of September.

OUR VIEWS.—Quarterly Examinations in Photography—Our "Monday Evenings"
—The 1890 Prize Lantern Slides Going to America—The 1891 Competition—A Few Words on the Convention—The "Night Blooming Cereus"—Snap shots at the Wimbledon Review—The Ladies' Photographic Competition—Dr. Emerson on Photography as an Art—The Art-Colour Photograph Company.

LEADER.—Photography in the Holidays:

ILLUSTRATION.—"Night Blooming Cereus," by Major H. W. B. Bruno.

LETTERS.—A Portable Dark-room for Army Officers (Bruno, Illewon)—Delayed Foreign Exhibits at the recent New York Exhibition (F. C. Beach)—Changing Bag (O. Appleton)—Plumb Level (S. P. J.)—Nature and Art (Te Wirrimu).

ARTICLES.—Photographic Procedure (Wall), illustrated—In the Dovedale of Westphalia (Fretwell)—The Focal Plane Shutter, illustrated—The Properties of Paramidophenol.

NOTES.—Our Contemporaries.

HOLIDAY RESORTS AND PHOTOGRAPHIC HAUNTS.—The Wye Valley (A. C. W.)—Enfield (H. Walker).

APPARATUS.—The "Bellolux" Lamp.

SOCIETIES' MEETINGS.—Ashton-under-Lyne—Croydon—East London—Holborn—Lewisham—Lowestoft—Newport (Mon.)—Richmond—Sheffield Lantern—Southport Social—Spenn Valley—Stockton—Woolwich and District.

DARK-ROOMS for Amateur Photographers.

WE shall be pleased to hear from those of our subscribers who intend entering the next AMATEUR PHOTOGRAPHER "Quarterly Examination in Photography." A syllabus for the quarter has been prepared. The next session will commence in the first week in October. Three questions will be set every week, and they will be published in this journal and the best answers to them. The syllabus has been prepared with great care and will enable students to work up the answers. We shall hope to have a large number enter.

IT is interesting to note that the winners of both first and second prize in the last examination elected to have a Thornton-Pickard Time and Instantaneous Shutter.

VERY shortly our arrangements will be complete for the AMATEUR PHOTOGRAPHER "Monday Evenings," which we feel sure will be largely attended and become exceedingly popular.

THE competitors in the 1890 AMATEUR PHOTOGRAPHER Lantern Slide Competition will be flattered to know that Mr. F. C. Beach, of New York, on behalf of the American photographic societies, has asked us to loan the slides to them for the winter season. Owing to the fact that the 1890 slides are heavily booked for the first months of the season,

September, October, and part of November, we shall not be able to ship them until the middle of November. Any of our subscribers who are desirous of seeing these slides should at once make application, giving three optional dates which must be on or before the 10th of November. Each application must be accompanied by a packing fee of one shilling.

WE shall also be pleased to receive applications for the 1891 Prize Slides, as early as possible, with three optional dates, so that the journeys may be mapped out, in order to make the carriage as light as possible for all concerned. We hope that there will be the same number of slides as last year. The subjects are slightly altered, viz.:—Class I., Landscape, Sea pieces, and River Scenery, with or without figures. Class II., Portraiture and Figure Studies, to include indoor or outdoor pictures. Class III., Architecture, interior or exterior. Class IV., The Fine Arts, which may include copies of pictures, engravings, sculpture, art metal work, china, bric-a-brac, etc. The slides must be accompanied by descriptive notes and a lantern-slide portrait of the competitor. The forms are ready, and the slides must be received on or before the 30th of September next.

LAST week, in our brief note on the Convention, we did not mention that Mr. J. J. Briginshaw, the Hon. Secretary of the Convention has been compelled, owing to his pressing business engagements, to tender his resignation to the Council, which they with much regret have been obliged to accept. Mr. Briginshaw has worked hard to advance the interests of the Photographic Convention of the United Kingdom, and the Council and the members present when his resignation was handed in signified their appreciation of his efforts with unmistakeable earnestness. We understand that Mr. F. P. Cembrano has taken the reins of office. His knowledge of photography and photographers, though an amateur, will stand him in good stead, and his uniform courtesy and gentle manner will, we are sure, earn the affection of the Council and add many new members to the Convention. The meeting duly nominated Mr. H. P. Robinson as President of the next session, which will be held in Edinburgh. We, however, understand that it is very doubtful whether Mr. Robinson will accept office. He has always shirked public duties, and is, as most of us know, more ready with his pen than his tongue; in fact, we believe he detests public speaking in any form. Failing him, who will be President? Possibly one of the editors of the photographic journals. Who knows. They have *all*, we believe,

been elected on the Council—at least, if we accept the report published in the columns of a contemporary.

WE are anxious to receive specimens of topical photography, or, in fact, any photographs of general interest, to illustrate this journal. This week, as promised, we reproduce the lovely photograph of the "Night Blooming Cereus," sent us by Major H. W. B. Bruno. He says, in writing to us:

"The plant is a species of cactus, found in several tropical countries, and has a robust, even luxurious growth on the poorest of soils. In the island of Saint Helena it may be seen in the hedge-rows (where it makes a formidable fence), and growing wild in the lava deposits on the rocky slopes of the valleys. I have not met with it there at a higher elevation than 700 feet above sea level.

"One peculiarity of this plant is the extreme ease with which it can be reproduced. A piece roughly cut off from the parent stem and thrown among the rocks will usually throw out roots and establish itself there. It flowers in St. Helena during the months of March and April, and this year there was an unusual profusion of bloom. I was fortunate enough to have a long bank of the cactus close at hand, and when in full bloom, at night, the ground presented the appearance of a cover of snow in England. The flower-bud takes the form of a narrow cone, with the green fronds clasped, octopus-like, round it. At night it gradually opens until the whole flower is expanded to the circumference of a large soup-plate, the green fronds then falling gracefully round it, as shown in the photograph. The exquisite beauty and snowy whiteness of its petals, and the delicacy of the stamens, and foliage, place it far beyond any lily, in my opinion. As soon as the strong light strikes the blossom it droops and partly closes up, and in the course of an hour or so becomes a draggled and discoloured piece of garbage.

"I occasionally cut off a flower-bud and standing it in a tumbler of water watch the petals expand at night, and it certainly forms one of the most beautiful of nature's phenomena, and is a sight once seen not readily forgotten.

"The negative was taken with a whole-plate single W.A. lens working at $f/16$, and with 50 secs. exposure at daybreak."

WE note that in the July number of the *American Journal of Photography*, a note is given on "The Cereus in all its Glory," the editor having received several photographs from Mr. B. Grant, a resident at St. Helena. They say:—"Independent of their scientific value, these prints reflect great credit on Mr. Grant as a photographer. It is but another instance how widespread is the interest taken in photography, when such excellent results come from a wave-washed rock in the southern ocean, 1,200 miles from the nearest land."

MR. CYRIL S. COBB, of Surbiton, has sent us two very fair hand-camera shots, taken upon the occasion of the Review; one is of the German Emperor, and is fairly good, and the other, of the Princess of Wales, is admirable. They will be interesting mementos of the Emperor's visit. Perhaps some of our friends in Birmingham will send us a photograph of the Prince of Wales' reception, or a view of the function. Such views would be admirably adapted for our "topical picture" next week.

WE would remind our lady subscribers that we shall be glad to receive their photographs as early as possible. The last day for sending in for the "Ladies' Photographic Competition" is the 22nd of August. Entry forms will be sent on receipt of stamped addressed envelopes.

IN September next an Art Exhibition is to be opened in Kimberley, under the patronage of the Governor. The following branches of art are intended to be represented:—Oil-Painting, Water-Colour Drawing, Sculpture, Etchings, Wood Carving, Engravings, Photographs, Art Needlework, China, Jewellery, Bronze and Metal Work, Specimens of Native workmanship, and such other objects as the Committee may deem appropriate. The Committee includes

three gentleman—Rev. Father Ogle, Messrs. M. Macfarlane, and F. Skead—representing the Camera Club. Medals and certificates will be offered for competition in all the classes. The exhibits must be framed, in the case of paintings, photographs, etc., and the description and name of the exhibits forwarded to the Hon. Secretary, on forms which he will supply, one month before the date of the exhibition. The Hon. Secretary is Mr. J. Deane Simmons.

DR. P. H. EMERSON contributes an article to the July number of the *Magazine of Art*. In this he deals with the position of photography as an art, or its position with regard to "the arts." Mr. Emerson's view of it, in this respect, is well known by our readers. Photography, he says, is the handmaid of art: it is not an art in itself. Too little can be done with it; too little is possible to the worker in it, who is "rigidly limited in selection of subject; he cannot subdue a tone here, emphasise a tone there; suppress a detail here, emphasise it there; the power of showing individualism is for ever denied him by the conditions of his existence." Further on he says that "some individuality he can put into the photograph, if it be only in showing his idea of what phases of nature are beautiful."

The *Globe* says—"But, in truth, that there is art in photography is exhibited in the fact that certain specimens of it are infinitely superior to others, not only in their likeness to the person or thing portrayed, but in the method by which that likeness is brought out. The photographer is no doubt limited in his effects; but, at their best, those effects can, admittedly, be artistic. Meanwhile, before photography becomes (if it ever becomes) absolutely artistic, it will be well for it to become accurate. At present, the epithet 'photographic' by no means conveys the idea of scientific exactitude. Photographs can be entirely misleading, and often are so. Their producers will be entitled to sufficient praise when they succeed in making the process wholly trustworthy."

THE Art Colour Photograph Company entertained a number of gentlemen representing the various sections of the Press at dinner at the Hotel Metropole, on Monday night, on the occasion of the exhibition of a number of specimens of photographs coloured by their new process. The chair was occupied by Dr. Goodwin, and at the conclusion of the repast Mr. Ford, the Secretary of the Company, made a short speech, pointing out that the invention by means of which the photographs were coloured was the discovery of a Frenchman, Victor Mathieu, who had been working on it for seven years. The photographs were taken on orthochromatic plates, prints were made on specially prepared paper, and then these prints were specially treated with the three primary colours, and the various shades and half-tones were produced automatically. The prints were really permanent, not affected by damp, and could be produced at a price little in excess of that charged for an ordinary photograph.

Specimens of the process were then shown, the results of the colouring were really marvellous, and there was no trace on the face of the picture of the "way in which it was done." One picture of a bronze statue was most beautifully coloured, and we were very much struck with the copy of Meissonier's "1814," the photograph of a piece of carpet, the portraits of Cardinal Manning, Madame Jane May, and Mrs. Goodwin. If, in the commercial working of the process, the portraits are so effectively and softly coloured as in the examples then shown, we prophesy a brilliant future for the process, and have no doubt that it will have a considerable effect on the production of the present monotone portraits.

PHOTOGRAPHY IN THE HOLIDAYS.

POSSIBLY in the next three months many of our readers will be journeying into the country and going afield with a good stock of plates to make or spoil. And we may, perhaps, suggest one or two ideas which may be useful.

The question as to apparatus is not very difficult to decide, but one of the most useful aids in this respect is "A Tourist's Equipment," by the Rev. Precentor Mann. Plates can usually be obtained in most seaside holiday resorts, and in many large towns also, and we have on our register of dark-rooms many dealers who will allow the use of their dark-rooms to customers free of charge. The dark-room is always a bugbear, but we venture to think quite unnecessarily so. There is a general opinion that it is absolutely necessary to use a dark-room for changing plates, whereas

summer's night without any sign of fog. Many rooms possess a dressing table which is draped round the legs with cretonne or some such material, and underneath such a table we have not only changed but actually developed plates.

Many amateurs leave all their developing till they reach home again, and if one is certain of exposure, this is a very good plan, but we have a preference for developing each night those plates exposed during the day. In cases of any particular subject this plan should be always adopted, as, if there has been failure from any cause, the exposure may be duplicated, and thus considerable disappointment saved. It is, moreover, much easier to develop the same day as the exposure is made, as the particulars of the subject are then vividly fresh, and the developer may be modified to suit the particular class of subject.



NIGHT-BLOOMING CEREUS.

(From a photograph taken in St. Helena, by MAJOR H. W. B. BRUNO, O.S.D.)

this can be very easily done in any ordinary bedroom at night, and we shall now proceed to discuss the various ways of using a room. Every tourist will, it is presumed, have a red lamp of some kind, but even this may be dispensed with by the following plan. A sheet of ruby paper is folded the exact width of the bars of the fireplace, a little extra being allowed in the length; this paper should then be placed in the grate, twisting it in and out of the bars, and allowed to project about a couple of inches above the top and below the bottom bars; behind should be placed an ordinary bedroom candle; any actinic light which escapes at the top will go up the chimney, and that at the bottom may be disregarded, and it will be quite safe to change plates in the light thus obtained. With a dark-room lamp it is only necessary to turn the venetian blind so as to reflect the faint outside light on to the ceiling, and this will then be quite harmless. We have before now changed plates by this faint light of a

Holiday photography may be of two main classes—(1) seaside work; (2) inland work. For the first class we have boats, beach scenes, yachts, etc., and breaking waves. As a rule, it is far preferable to use rapid plates and stop down the lens than to use slow plates with full aperture, because, in the first case, we obtain greater depth of focus and more even definition, and are enabled to use a shutter at a much greater speed. It is obviously impossible to fix any particular aperture or speed of shutter, as these two points must be decided by the character and exigencies of the subject. Still, we have obtained fully-exposed plates with $f/22$ and one-thirtieth of a second about mid-day in August and July. One important point often overlooked by amateurs in seaside or general instantaneous work is that the further off a subject is, the shorter may be the exposure, and, of course, *vice versa*; that is to say, a group of children digging in the sands at twenty feet distance will

require a longer exposure, disregarding motion for the moment, than the same group at forty feet. On the other hand, the nearer a moving object is, the more rapid must be the shutter movement, to obtain critical sharpness.

Hand-cameras will, of course, be a great help for obtaining the inevitable children paddling, and suchlike beach scenes, but for yacht work we strongly advise the larger apparatus. Too often yacht pieces are perfect caricatures. We see a miniature boat in miles of water; this is the effect of too short a focus lens. The old question of abuse of hand-cameras we need not touch upon, but it is certainly preferable to avoid hurting peoples' feelings by snap-shooting them against their will.

For inland work we have farm-house and village life, landscapes with and without figures, and river views. To those who do not want a very expensive holiday, but a very enjoyable one, we can recommend no better way of doing plenty of photographic work than by "doing a river." If alone, a canoe is by far the most convenient style of boat; with a canoe you are always facing your bow, and, moreover, can get into places, creeks, and coves which are otherwise inaccessible; you can drive the nose of the canoe into a bank, and fix it firmly while you set your tripod legs in the water, if necessary, and expose, and then just fold the camera up and lay the legs along the side of the canoe, to be ready for use the next time. The upper reaches of the Thames will well repay a week's work; but even smaller rivers are well worth attention, and a charming hunting ground will be found on the Medway, of which we can speak from personal experience. In river work, always start as high up as you can, and come down with the stream, and, if not afraid of chills, sleep in your boat, providing yourself with a rug or two, and a mackintosh.

No matter where you go, remember not to trespass on any grounds you come to. By courtesy alone people have a right to object to have their houses, etc., photographed; leave is, as a rule, granted when courteously asked, and it has more than once been our lot to not only be allowed to photograph a house or special bit, but have been kindly offered advice and instructions how to find pretty spots. If you are asked to send a print, and you promise to do so, be careful to keep your promise, as by so doing you not only render the only possible return for a favour, but you also render it easier for the next camera man who may chance that way.

Letters to the Editor.

A PORTABLE DARK-ROOM FOR ARMY OFFICERS.

SIR,—I can fully sympathise with your correspondent "Centurion" in the many discomforts and difficulties one experiences in fitting up a dark-room in quarters abroad; and many and varied have been my own makeshifts in that direction.

A very simple plan is to have four wood rods about 7 ft. long, and $1\frac{1}{2}$ in. diameter, made with screw-joints in the centre of each rod, reducing their length for packing to 3 ft. 6 in. Now, if these four rods are connected, top and bottom, by four cross pieces, or ties (eight in all), you have a light framework 7 ft. high by $3\frac{1}{2}$ ft. square. It is easy to cover this frame with non-actinic material, leaving a door, with hanging curtain of the same material. The top should be in the form of a square hood, overlapping the framework, so as to admit air without light.

This is the most portable form I can suggest. For something more substantial, "Centurion" might take a hint from the "Eveready Dark Room" advertised in these columns.

My experience of these small dark-rooms, or tents, in the tropics was, however, certainly not encouraging. The atmosphere rapidly becomes unbearable, and is neither conducive to health nor careful working. I made a practice, therefore, of developing at night, when not only the atmosphere but the solutions are at

a lower temperature, and when any room can be used. If "Centurion" is very anxious to work by day, I can recommend the following plan. There is a light (under 5 lbs.) and very portable dark-tent sold for a guinea by most dealers, and known, I believe, as "Preston's Ventilated." It is simply three folding boards, making a rectangular box when open, with a curtain falling from the top. It stands on any table. With one of these, and light-tight covers to the developing trays (easily made from plate-box lids), the operator can immerse the plate in the developer, under the tent, cover the dish, and return to fresh air outside, giving an eye to the plate now and then until development is complete. I have recently been to the Cape and St. Helena, and if I can assist "Centurion" in any matters photographic I shall be very glad to do so.—Yours truly,

July 18th, 1891.

H. W. B. BRUNO, Major, O.S.D.

SIR,—"Centurion," in his letter from Ceylon of June 11th last, seeks, through the columns of the AMATEUR PHOTOGRAPHER, the aid of the inventive powers of his fellow-workers, in the production of "a very light, portable, and easily put together dark-room." Four feet square and six feet high appear to be the dimensions he asks for; to pack into a box four feet long, but how wide or deep he does not say. The whole, however, to be able to stand "the banging about of one's kit by fatigue parties."

As a brother in arms, who has "dabbled a little in this most fascinating pastime of photography," in many places in India, in Singapore, and in the Andaman Islands, in climates varying from 50 to 106 deg. as regards range of thermometer, and from as dry as dust to ten yards of rain in the twelvemonth as regards moisture; and having often travelled by route march, by rail, and by sea, my experiences ranging from 1862, when I took my first photograph, to 1888, when I took my last, under an Eastern sun, possibly allow me to recommend, with a certain amount of authority, that which served me as a dark-room throughout those years, and with which I worked wet collodion half-plates, and sensitised all my printing paper in days prior to dry plates and ready prepared printing media.

My room consisted of a deal wood box, made up of $\frac{3}{4}$ inch stuff, 2 feet 6 inches long, 1 foot 9 inches wide, and 5 inches deep, outside measurement, which stood on a pair of cross legs, such as a butler's tray is placed on. The whole roped together was the lightest possible load for a coolie; and as to strength, I had but two during the period of time mentioned.

In these days, I believe, the dark-room to which I allude is termed "a portable dark-tent." Whether such were dealt in as far back as 1862 I know not. I had never seen one when I made up mine.

Of course, the whole of the tent portion shut up inside the box; to describe it in detail would take up too much of your space. "Centurion" will find drawings in almost any catalogue, from which he could work out for himself.

My object in replying to his letter is merely to show that simple and inexpensive paraphernalia are quite as useful as the more costly and faddy—perhaps more so.—Yours faithfully,

July 20th, 1891.

LLEWON.

* * * *

DELAYED FOREIGN EXHIBITS AT THE RECENT NEW YORK EXHIBITION.

SIR,—Some misapprehension having arisen as to the appearance in the catalogue of the fourth annual exhibition of the names of one or two foreign exhibitors whose exhibits were not hung when the exhibition opened, an explanation is now deemed necessary in order to show that no injustice was done to such exhibitors.

It should be mentioned that the entry forms filled out for catalogue purposes were received by mail some time in advance of the exhibits sent by express; the Committee expecting they would arrive in time, favoured the exhibitor, as they thought, by inserting in the catalogue his name and description of exhibit.

In the case of Mr. Lydell Sawyer, of Newcastle-on-Tyne, whose entry form was received ten days before his exhibit, which was delivered three days after the exhibition opened and after the awards had been made, there was no chance, under the rules, for his exhibit to be framed and judged. It was, accordingly, hung for "exhibition only" by consent of the Committee. It took twenty-one days from the time they were sent till received in New York.

His work was admired by many visitors, and would doubtless

have taken a medal, as at many other exhibitions, had it come in time.

In the case of Mr. John E. Austin, of Maidstone, whose work has invariably taken a medal wherever exhibited, it should be stated, that while his entry form reached the Committee in time for the catalogue, his exhibits never came to hand, and at the time, though diligent inquiry was made about them of the forwarding agents, no trace of them could be found. This explanation should prevent Mr. Austin from being put in any false position.

A third case is that of Colonel R. W. Stewart, of Devonport, who, instead of sending his entry form by mail, sent it by express, with the photographs, which were received the third day after the exhibition opened, too late for entrance in the catalogue and for judging. He had excellent platinotype prints of Westminster Abbey. They were hung for exhibition and were much liked.

Few foreigners can imagine the delay even in getting the simplest article through the United States Custom-house. In some parts of it one man has to do the work of two, then the articles have to be appraised and must wait their turn. Usually ten days to two weeks are required, hence in sending articles to America this delay must be allowed for. It was for this reason that the Committee urged all intending foreign exhibitors to send their pictures unmounted by mail. Those that did so, had their exhibits here in ample time. Until our laws are changed, the present hindrance to a free interchange of photographs is likely to continue.—Yours, etc., F. C. BEACH,

(Chairman of the Committee of Arrangements of the Society of Amateur Photographers).

New York, July 10th, 1891.

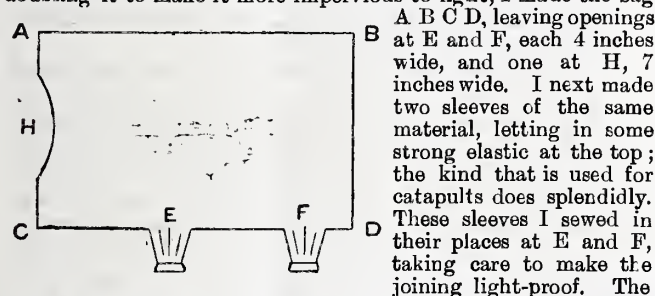
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CHANGING BAG.

SIR,—Seeing several inquiries lately as regards changing bags, I thought a description of one I made some time ago would not be out of place, and might be of use to a few of your numerous readers.

It looks something like this when finished :—

I first procured some black silica as strong as I could get, and doubling it to make it more impervious to light, I made the bag



bag is now finished. To use it I got two cardboard plate boxes, such as the plates are packed in when bought, and on the top of one I glued a strip of emery paper, in order to be able to distinguish it by merely passing my hand over the surface. The other I left smooth. In the rough box I put my unexposed plates, which are fastened back to back by means of gummed paper strips, after the fashion of a lantern slide with the usual piece of black cardboard between them. The smooth box I leave empty. These two boxes are put in my bag when I go out, and they do not leave it until I return to my dark-room. When changing I put my dark slide in at the opening H, double over the end of the bag, so as to cover the opening, and clasp it with an ordinary letter clip to prevent it unrolling. Of course, it could be made to button over, which would look much neater. I now insert my hands at E and F, with the elastic grasping my wrist, and pull my coat sleeve down over the sleeve of the bag. This effectually prevents light entering that point. The dark slide can now be opened, the exposed plates taken out and put into the smooth box, and the slide reloaded from the stock in the rough box. The slide is then closed and withdrawn from the bag ready for insertion in the camera.

I have done my best to describe the bag, and the manner in which it is worked, but if I have not made my meaning

sufficiently clear, I shall be happy to give any further information on the subject.

I may say I have changed plates in this bag in the brightest sunshine, and have never yet had one fogged through its use.—Yours, etc.,

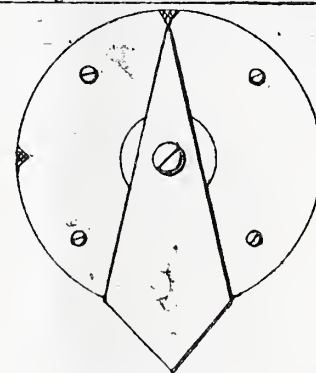
July 20th, 1891.

* * * *

PLUMB LEVEL.

SIR,—I enclose a rough sketch of a plumb level I have just made for my hand-camera. It differs from the Thornton-Pickard level inasmuch that it can be seen by looking down on the top

Top of Camera.



of the camera. It can be used either for oblong or upright pictures. I have tested it upon two of my cameras, and find it answer perfectly. I place it in the middle of the front of the camera just before the finder. Any one can make and sell it, as it is not registered in any way. Being an amateur only, I have no wish to make a profit out of anything appertaining to photography. I know that the "Multiple developing dish"

you were kind enough to bring before the public for me some time ago is selling very well. You may, perhaps, remember that Mr. Tylar, of Birmingham, took it up through seeing the sketch of it in your paper.—Yours, etc.,

S. P. J.

* * * *

NATURE AND ART.

SIR,—In last week's AMATEUR PHOTOGRAPHER, page 44, col. 2, line 14, Mr. H. P. Robinson says that "nature is not an artist." Now, Sir, is this true? In my opinion it is not. I believe that nature is a true artist, and that if we fail to see the art in any of her productions, the fault lies with us and not with nature. Leave nature to herself and uninfluenced by man, and at every step she offers pretty pictures—the grouping of flowers in the hedge-row, a bird with its young, the shape or grouping of some trees, each is a picture in itself, and each forms part of a larger picture. And even if the lighting of one particular object mars one of the smaller pictures, yet this same lighting adds to the effect of the larger picture, of which the smaller one is but a part. And as regards colouring, where can you find more beautiful or more beautifully blended and harmonious colouring than in nature? Look at the wings of a butterfly or a moth, the fields and woods at any season of the year, or a sunset sky, and say if there is any colouring, not nature's, that can beat them. Then, as regards variety and beauty of form, I don't think any one will say that nature can be outdone. In fact, Sir, in form, colouring, and composition there is no artist like nature.—Yours truly,

TE WIRIMU.

July 20th, 1891.



"Amateur Photographer" "Holidays with the Camera," Competition (Second Year).—Prizes: Gold, Silver, and Bronze Medals, and Certificates with special prizes of "Niepce" or progressive medals for past prize-winners. In all, twelve prizes will be placed at the disposal of the judges.

SUBJECTS.—All photographs are eligible that have been taken during the "Holidays," but must be landscape or sea pieces, with or without figures, views of town, photographs of cathedrals, churches, public buildings, etc., but not portraiture, figure study of pictures which could be classed as "Photography at Home."

NUMBER.—No more than twelve, or less than six prints are to be sent in. They must all be mounted. They will be judged upon their merits as a whole.

DESCRIPTIVE NOTES.—Each competitor must contribute a short account of his holiday, to be not less than 500 or more than 1,000 words.

DATE.—All photographs must be received on or before the 31st of December, 1891.

RULES, CONDITIONS, and ENTRY FORMS will be forwarded on receipt of stamped addressed envelope. The application should be addressed, "HOLIDAYS WITH THE CAMERA," Editor, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C.

Photographic Procedure.

By E. J. WALL,

Author of the "Dictionary of Photography."

SECTION I.

THE CAMERA AND ITS APPURTENANCES.

(Continued from page 43.)

Dark Slide.—This, which, like the camera itself, must be absolutely light-tight, is, in its simplest arrangement, a little wooden chamber closed behind by a door and in front by a sliding shutter. Improvements in the camera lead to improvements in the dark slides, single giving place to double slides, reduction of weight and size taking place simultaneously. Single dark slides are rarely met with now, except in some of the larger sized studio cameras.

The most usual form of dark slide is the so-called book form, as shown in the accompanying diagram.

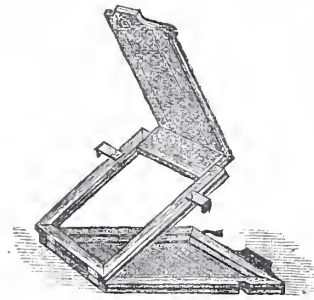


FIG. 13.

A plate is laid with the film downwards in one side, and a sheet of thin blackened zinc or card laid on top, and the whole kept in position by two little brass turn catches. In the diagram it will be seen that the sliding shutter has one fold, and the major portion of the shutter lies on the top of the camera; in other kinds, three or more joints are made, and the shutter folds the reverse way, that is over the dark slide.

Another form of dark slide is the solid or block pattern, which is similar in appearance to the book form, but the plates are inserted through one side only and kept in position by a brass clip at the bottom. A variety of this pattern has also been introduced in which the shutter has four folds, and the carrier containing the plate is inserted through the base of the slide. It is justly claimed for these slides that there is less chance of plates being light-struck than with the ordinary book pattern.

An important improvement in the shutter joints is shown, in the accompanying diagrams, the invention of Messrs. Holmes and Watson. The small tongue

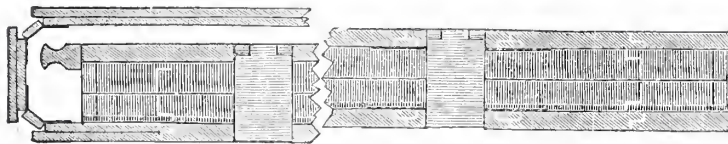


FIG. 14.

of wood inserted must be obviously a further safeguard against light-struck plates, and at an acknowledged weak point of the dark slide.

To the amateur not burdened with too much spare cash, metal dark slides are a great boon; they take up less room, are wonderfully cheap, and we regret to add wonderfully heavy; still, they are good value for the money and a great advantage where a number of slides are required. These are shown in the accompanying figures, representing the slide introduced by Messrs. Lancaster and Son (fig. 15); metal slides are also made by Mr. W. Tylar (fig. 16).

A single dark slide of extreme lightness and good construction is the Barnett, introduced into England

by Mr. Chadwick, of Manchester. In this slide the shutter is pulled right out, and there are no hinges. It is easy to fill, half the weight and half the price of the ordinary form.

Care of the dark slide is as important as of any other portion of the apparatus. They should be kept periodically dusted out. The

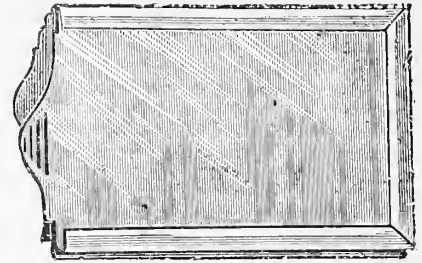


FIG. 15.

sliding portions occasionally treated with dry black lead and the black partition should be occasionally re-blackened. A minor but at the same time a convenient little matter is the method adopted by manufacturers with regard to this partition; some merely use a piece of cardboard, others a sheet of thin zinc, and some insert them loose, others are kind enough to fasten them in some way to one end of the slides. This is a great convenience, it prevents any slipping or any loss, and if any reader should have a set of slides provided with loose septa, they should

be attached to the lower end of the slide with a piece of black calico or other materials, with the aid of glue. Many dividing pieces are provided with springs to keep the plates in register. Care should be taken that in large size plates these springs do

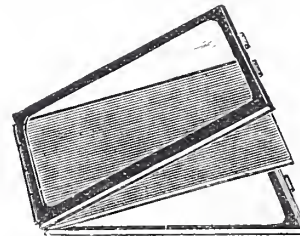


FIG. 16.

not exert such strong pressure as to bend the plates. See also Testing Dark Slides and Changing Plates (Section VI.)

One other little point which should be observed by all makers is that when dark slides are numbered—and every one should be—the loose plate or the one not held in by clips should be the lower number; thus in a slide numbered 1 and 2, No. 2 should be the plate held in by clips, so that No. 1 may be exposed, and, if necessary, taken out for development without disturbing No. 2. This is a minor matter, but such minor trifles tend considerably to comfort and ease in practical working.

Dark Tent.—Practically a portable dark room and a piece of furniture far better known to wet-plate workers than to the modern amateur, though a few are occasionally met with. (See Section V., The Dark Room.)

Extension Cameras, front, back, and double, or long.—At the outset I must apologise if this note runs to a greater length than the patience of my readers, but I have endeavoured as far as possible to give the advantages of the different constructions, and have included typical cameras, illustrated in most cases by commercial patterns, and for the loan of the blocks I am indebted to the several makers, and I take this opportunity of stating that they are included as types, and not as advertisements, a plan which I have pursued throughout the entire work, and which I trust will be satisfactory to all.

Double or Long Extension Cameras have been introduced in order to meet the demand for cameras

suitable for almost universal work, and with long-focus lenses; they may well be divided into two classes, the back-extension, and front-extension cameras. This practically means, dividing them also into square and conical, or tapering bellows cameras, as all the back-

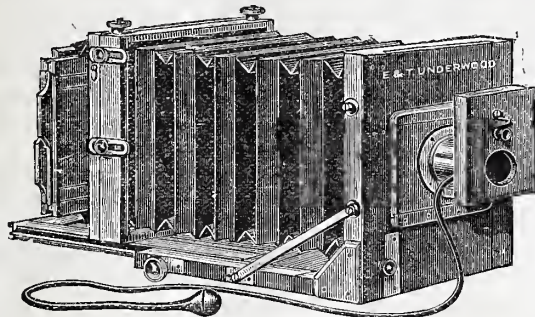


FIG. 17.

extension cameras have square bellows, and nearly all the front extension tapering bellows.

Back-Extension or Square-Bellows Cameras.—This type of camera is represented by the camera shown extended in fig. 17 and in fig. 18. These two cameras have been chosen as exemplifying different methods

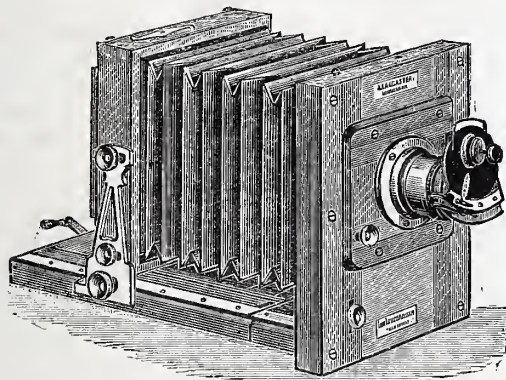


FIG. 18.

adopted for racking out the extension; in fig. 17 the makers adopt a rack and pinion actuated by a milled head at the side; in fig. 18 the makers adopt a screw working at the back of the camera. Personally, the back-extension square-bellows camera is the one I prefer, and I should choose the rack and pinion in preference to the screw. In back-extension cameras

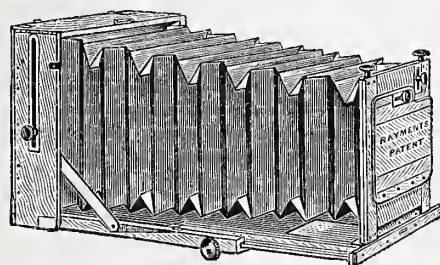


FIG. 19.

the front is rigidly fixed, and as the front bears the lens, which is usually weighty, there is possibly less chance of vibration. Adherents of the front extension pattern claim that the dark slide with its plates weighs more than the lens, and as the existence of a weight at the end of a long lever tends to vibration, it is advisable to have the back fixed, and the front move-

able. To this argument I reply, that the lens is the very last thing touched before exposure, and therefore, anything which tends to lessen the vibration at this moment is to be preferred. Another disadvantage arrayed against the back extension is, that it is by no means easy to use a compound focuser for examining the image with a piece of the baseboard sticking under the chin; with most of the recent pattern back extension cameras, however, the amount of baseboard projecting is very small. On the other hand, with absence of baseboard in front, wide-angle lenses can be used without fear of cutting off any of the view, and with back-extension cameras, the baseboard folds up over the focussing screen, thus affording extra protection against accidental fracture. When using an instantaneous shutter working at a high speed, the chances of vibration are considerably less with a back-extension camera than with a front extension.

Front-Extension Cameras.—This class of camera is undoubtedly the favourite. It enables the maker to reduce the total bulk and weight of the instrument, by using tapering, "Kinnear," or conical bellows, thus reducing the size of the camera front. There are a very large number of different cameras of this type, differing in details. One method of fixing the front of the camera in position will be seen in fig. 19, in which milled nuts working on pins clip the front in approximate focus, exact adjustment of the same being attained by the milled head at the side of the baseboard actuating a rack and pinion. In fig. 20 will be seen another method of attaining the same object, viz., by means of brass struts or stays.

Other manufacturers make use of lever cams, a plan less preferable, I think, than milled head or screw nuts. I have already endeavoured to sum up the pros and cons of back or front extension, and have now only one or two points to consider of variations in other parts of the camera. Recognising the demand for front-extension cameras, in which there should be no projecting baseboard to cut off any portion of the view, the makers have introduced an improvement by means of which the back and focussing screen of the camera may be moved

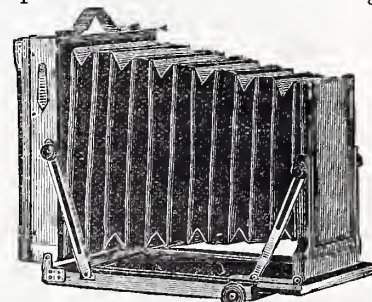


FIG. 20.

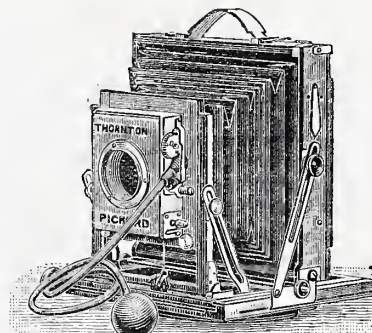


FIG. 21.

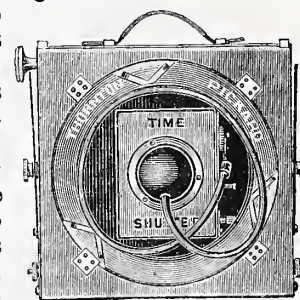


FIG. 22.

up close to the front when using wide-angle or short-focus lenses, as shown in fig. 21.

In fig. 22 will also be seen another idea for the saving of weight, and for gain in compactness. In this the centre of the baseboard is cut out, allowing the camera to be closed without removal of the lens. In many cameras also a special turntable and contained tripod head is also fitted, allowing the camera to be swung round in almost any position, and instantly clamped into that position, and doing away with the loose tripod head.

Falling Front.—See Front.



In the Dovedale of Westphalia.

BY JOHN FRETWELL.

EVERY nook and corner in Old England has been so industriously photographed that it is pleasant to discover some spot within a day's journey of London where the camera is still an infrequent visitor. Such a spot I have found within a few miles of Dortmund in Germany. This place itself, in the centre of the chief coal and iron district of Westphalia, is indeed singularly unattractive. But like our own black country it has its green borderland, with scenes as full of interest to artist and geologist as any in England.

So when my boy told me that Ascension Day was also a bank holiday, and proposed an excursion into the limestone region lying south of the Ruhr, I was glad to join him on it. Going by railway to a point where the Ruhr and Lenne meet, and then by steep gradients up the valley of the Lenne, we passed many a castle-crowned height, and many a limestone rock, whose bizarre forms reminded me of Tissington Spires and other quaint forms on the banks of Dove or Derwent. We left the train at a small station called Deechenhoehle. Here, in blasting the rocks for the railroad between Letmathe and Iserlohn, a stalactite cave had been discovered, and the railroad company, with a keen eye at once for poetry and profit, erected a station at the spot, provided refreshment room, guides and electric lights, and so attract thousands of visitors to what is one of the most beautiful limestone caverns in the world.

I found it impossible even with five minutes' exposure to get any impression on my dry plate by the reflected light of the incandescent lamps, but Cohen, of Iserlohn, has published some very fine photographs made by aid of the magnesium light. From the cave a good road passes through a most picturesque country to Iserlohn, which, once providing the rough warriors of the middle ages with their coats of mail, now competes with Birmingham in the metal ware markets of the world.

Crossing the watershed between the valleys of the Hoenne and Lenne, we came to a pleasant roadside inn, which, if I might judge from the number of bicycles and carriages before its gates, was likely to afford good entertainment for man and beast.

With much difficulty we managed to squeeze ourselves into the dining-room, and for eighteenpence each had what Americans call a "square meal" and a few glasses of poor but pure wine. Twenty-five years ago I had lived in Westphalia, and found here many a young man whose fathers I had known in the days that are no more. The walls of our hostelry were decorated with hunting trophies and rare old copperplates of hunting scenes by Reideriger, so true to nature that even an amateur photographer might despair of rivalling them.

As we left the inn, my boy's English camera and my own American defective (please, Mr. Typefiend, do not make my

f into a *t*) attracted the attention of the village children, and, as we marched up the hill, followed by the merry dancing crowd, I could not help feeling like the ratcatcher in Robert Browning's "Pied Piper of Hamelin," leading the children to Mount Koppenberg.

The likeness became closer when, passing through a wood, we suddenly came upon the yawning mouth of a great cavern, not unlike Ludechurch in the Buxton country, but ten times as large. Apparently the rain water had in former ages washed away the soluble parts of the limestone, till what remained was too weak to support the overlying rocks, and the whole roof had fallen in, forming a great wilderness of rocks in indescribable confusion overgrown with trees, which the people called the "Felsenmeer," or Sea of Rocks. Here alone was material for a full day's work with the camera, and the children, half seen, half hidden among the rocks and foliage, would have made good models for gnomes in illustrations to some old German fairy tale.

Unlike the children of Hamelin, they went back to their village as we moved eastwards, and only two—a Jew and a Catholic—followed us, to earn a few pence as guides and porters, and amused us much by their talk of their village life. When the road began to descend we turned southwards along the heights, and soon came to a farmhouse, made from the remains of an old robber castle. It stood on a precipitous of limestone rock, whose foot, some 300 feet below, was laved by the flood of the Hönne. Like the Aire at Malham Cove, and some of our little Derbyshire streams, this river for some miles flows through a subterranean channel, and reappears near the spot where we stood, in such volume and force as to drive several mills.

From our lofty point of observation we could look for miles up the deep ravine that the little stream had dug for itself between the limestone hills, while here and there white rocks harder than the rest glistened amid the green of the pines and beech trees. After two hours' tramp along the river side—enlivened by merry talk with bicyclist and peasant, and village girl, whose broad Westphalian version of "How much for my picture?" showed that human nature is pretty much the same here as among Yankees and Britishers—we reached a roadside inn called the "Noah's Ark," which is a favourite resort of German landscape painters, and at Menden we took the train back, *via* Iserlohn and Hagen, to Dortmund, amid a crowd whose boisterous manners proved that they had not only drunk delight of nature but also of that product of the German potato which is not unlike our British gin. The valleys of these Westphalian rivers are rich in scenes of enjoyment for the antiquarian, the geologist, and the artist with brush and palette, or with sunbeam and silver salt, and the centre from which I made my excursions is within twenty-three hours' journey from London by the Harwich-Rotterdam route.

Mr. Carl Jordan, the photographer of Dortmund, gave us every facility for developing our negatives, and was ready to supply us not only with the necessary dry plates and chemicals, but even with the loan of apparatus on very reasonable conditions, and no custom-house officers either in Austria, Germany, Belgium, or Holland caused me the slightest inconvenience in regard to that *bête noire* of travelling amateurs, the undeveloped plate. I send you two or three pictures, made by my American hand-camera, but as the latter was once used by a negro porter as a footstool in an American palace car, and on another occasion was smashed as I was running away from an unexpected interview with a Rocky Mountain bear, you must not too sharply criticise either the instrument or the operator.

The Focal-Plane Shutter.

THE question of instantaneous shutters is always one which is of vital interest to the amateur, and we find practical workers adhering to one form of shutter, which they consider the best. What is the *best* shutter? is an extremely difficult question to answer, because the definition of the word *best* differs with each amateur almost. In the first place we must determine whether we desire a shutter to work at a minute fractional part of a second, or whether a moderately small fraction only is desirable. For practical all-round purposes we might limit a shutter in its action from $\frac{1}{2}$ to $\frac{1}{50}$ of a second; for scientific or quasi scientific work, however, we need higher speed still. Thus for Muybridge a shutter working at $\frac{1}{2,000}$ to $\frac{1}{3,000}$ of a second would not be too quick, for solar photography probably $\frac{75}{1,000,000}$ of a second would not be too rapid. We have commercial shutters on various principles which are said to work up to $\frac{1}{400}$ of a second. I do not wish to impugn for a moment the good faith of the makers of these said shutters, but I am merely induced to use the term "said to work" because some tests of these shutters have not given these high speeds.

We may, however, leave the speed of these shutters alone for the present, as I wish to draw increased attention to a shutter which has long been neglected, and which alone fulfils the requirements I demand for practical work. The chief of these is that the shutter shall be adaptable to or allow any focus lens to be used, that it shall not be liable to get out of order, and, by no means the least important, that it shall allow *the whole of the light* admitted by the lens for any part of a second to be used for forming the invisible image. If we mentally glance over the varieties of commercial shutters, we find that they are either made to fit on a given size lens hood or lens tube. Now I frequently use a 7 in. lens of $1\frac{1}{2}$ in. hood diameter, and also a single landscape lens of $2\frac{1}{2}$ in. diameter tube, or one of $3\frac{3}{8}$ in. diameter. How am I to choose a shutter which will fit all three, so that I can conveniently and quickly change the lens in the field? The second point, liability to get out of order, we may almost dismiss without consideration, merely remarking that an india-rubber break or spring, or any perishable material, should at once cause the shutter to be discarded. The third point, the admission of the total volume of light, is of paramount importance, as we all know that in an exposure of $\frac{1}{50}$ of a second duration we require the total volume of light, because otherwise our plate has a very poor chance of being able to be impressed by the light emitted from any portion of the object, which may be dark in colour or in shade.

If we come to consider theoretically the light admitted by various forms of shutters, we get a series of figures which are very instructive and by no means difficult to understand; at least, I hope to be able to show to the least mathematical mind how we may approximately gauge theoretically the amount of light transmitted by any shutter. The first consideration is that the aperture of the lens is round, and the light transmitted or the field of illumination is also a circle, but we do not use circular plates, but rectangular parallelograms, the diagonals of which are diameters of the circle of illumination. We may, therefore, represent our transmitted light by a rectangle, which may be drawn in the proportion of the plate we are using.

Thus fig. 1 will represent the theoretical quantity of light which would be transmitted by a lens which was opened by a shutter in no period of time, and remained open for $\frac{1}{x}$ of a second, and was then closed in no appreciable period of time.

Now if we take the case of an ordinary drop shutter, we

shall find that there is only one brief period of time at which the lens is fully open, and this period is proportional to the



FIG. 1.

length of aperture in the dropping-piece, and the equality of illumination is equal to the height the shutter drops before the lens begins to be uncovered. We will suppose that in the first case the aperture in the shutter is rectangular or actually a square which just encloses the lens aperture; we may then represent the amount of light admitted during any given exposure by two triangles, as shown in fig. 2. From the figure it will be seen that the only point when the lens is fully open is EH, because before this point the aperture in the falling piece has been opening the lens aperture, and at this point it momentarily becomes a square, inscribed around the circle representing the lens, and the total quantity of light is allowed to pass through the unobstructed lens; immediately after this point we get the lens being closed. Now, it is very easy to reckon up the different quantity of light admitted in each case. Supposing we assume that our rectangle measures 6 by 4, then $6 \times 4 = 24$, the area or total amount of light admitted in any given fraction of a second with our ideal shutter. In the case of fig. 2 we have not the rectangle ABCD, but two triangles EFH, and EGH. Now, to find the area of a triangle the rule is "half base height," or, put it more

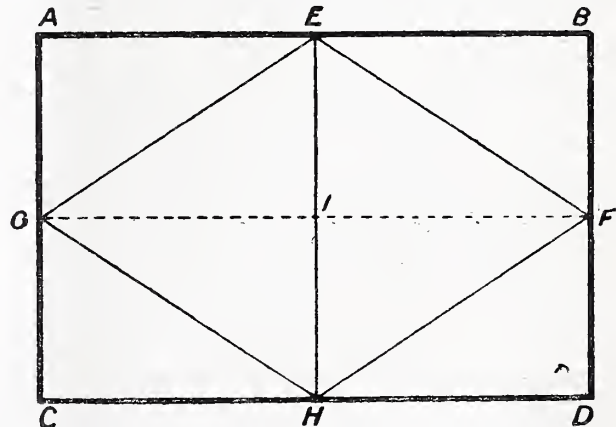


FIG. 2.

intelligently, $\frac{1}{2} \times \text{base} \times \text{height}$. Now, in our case we can easily determine this, because the base of our triangles is EH in both cases, the height from F to I and G to I along the dotted line, therefore we get:—

$$\begin{aligned} \frac{1}{2} \times EH \times FI &= \text{area 1.} \\ \frac{1}{2} \times EH \times GI &= \text{area 2.} \end{aligned}$$

∴ area 1 + area 2 = the total amount of light. Now, substituting values for these, we get :—

$$\frac{1}{2} \times 4 \times 3 = 6.$$

$$\frac{1}{2} \times 4 \times 3 = 6.$$

$$\therefore 6 + 6 = 12.$$

Therefore, a drop shutter working at or close to the lens will only admit half the quantity of light which our ideal shutter does.

Having determined theoretically the amount of light admitted by a simple drop shutter, it will be by no means difficult to treat the action of every other shutter in the same way, and it is not beyond the realms of possibility for every one to see—and as seeing is believing—that the statement which I have frequently made before is true. The statement I refer to is this: That no shutter, working in front, behind, or between the lenses can possibly allow the whole of the light to be transmitted by the lens during an exposure, no matter whether that exposure be a moderately small or large fraction of a second. But if we are debarred from using a shutter near the lens, where are we to put it? The only thing left for us is to use the shutter close to the focal plane of the lens, or, in other words, in front of the plate.

Now, let us first of all consider the origin of the shutter. This is, I think, at once set at rest by the following quotation from "Sutton's Dictionary of Photography (1867)," for the notice of which I am indebted to a paper by Mr. Francis Blake, read before the Boston Camera Club, April 14th, 1890, and printed *in extenso* in the February number of *The American Amateur Photographer*. Under the heading of "Instantaneous Shutters," Sutton says—

"There are many methods of instantaneously admitting and shutting off the light from the sensitive plate. Mr. Wilson, who has been successful in getting good pictures with rapid exposures, adroitly uses his Highland bonnet placed in front of the lens. Some use flap shutters in front of the lens, some a similar arrangement close behind the lens, and Mr. England and others use a guillotine sort of shutter, with a slot across it, which falls immediately in front of the sensitive plate. As the slot passes the plate, the parts thus exposed to light receive the full effect of the whole power of the lens. In some respects this is the best instantaneous shutter that has yet been devised, but it is apt to cause a vibration in the camera while in the act of falling."

The actual first maker of the shutter I believe to be Mr. Kershaw, or at least he has claimed (February, 1889) to have made a flexible blind shutter, working close to the plate, "more than twenty-two years ago." My own personal acquaintance with the shutter began in 1889, and it was then shown to me by Mr. B. J. Edwards, who had one in constant use; since that time I have entirely used one of this kind with perfect satisfaction. Last summer, however, I had one of Loman's Reflex Cameras, which is fitted with a shutter on the same principle, only with this great improvement—in my old shutter the only method of slowing the shutter was to increase the pressure of a V-shaped piece of brass on the periphery of the outer case of the revolving roller: in the new shutter which Messrs. Loman have introduced, increased or decreased speed is obtained by tightening the tension on the motive spring, and in my shutter I get a speed from $\frac{1}{2}$ sec. to about $\frac{1}{2500}$. I tried the shutter all through last summer, both in town and at the sea-side, and never found it fail me if I had correctly judged the necessary speed, and one soon gets to do this. I obtained last year rather over-exposed plates of portraits out of doors with the lens working at $f/9$, and the shutter working at the slowest speed, about $\frac{1}{2}$ sec.; and found that the shutter was, at its highest speed, quick enough to enable me to take a sharp negative of Arundel Castle when passing in the train, which probably was going about thirty miles an hour. As, however, the above speeds are mere guesses on my part, as somehow I have never found time

to actually test the working speed of the shutter, the following extract from the above cited paper by Mr. F. Blake will be of interest on this point. He says, after quoting from Sutton as given above—

"I have quoted the above because I feel sure that later on you will share with me the surprise that the principle of the focal-plane shutter so clearly stated by Sutton, should have been entirely neglected by later workers in the photographic field."

Mr. Blake then gives the results of testing the speeds of the leading varieties of the American shutters, and thus describes his testing apparatus :—

"My apparatus consists of a vertical staff about six feet in height, rigidly attached to an iron bed-plate. The staff is painted black, and is graduated downward on its front face in white lines to feet and hundredths. At the top of the staff is a movable piece readily adjusted to the height which brings the image of the sun, as seen upon the surface of the ball, exactly in a line with the zero of the staff graduation. The silvered brass ball, $2\frac{3}{8}$ inches in diameter, and 2 lb. 2 oz. in weight, is suspended by a short piece of silk trow line attached to a small vulcanite ring, which, in turn, is held by a spring clip attached to the adjusting piece. On opening this spring clip the ball is released, and, falling parallel to the graduated staff, is received into a padded box attached to the bed plate. It is perhaps needless to say that the exposure is made while the ball is falling, and that the length of the exposure is computed from the scale readings of the beginning and end of the black line, which marks on the negative the path of the reflected image of the sun. To facilitate the computation of results, I have prepared the subjoined table, which gives the time of falling to the ten-thousandth part of a second for each hundredth of a foot from 1.00 foot to 5.59 feet. The formula used in computing this table is $t = \sqrt{\frac{d}{g}}$, when t = time, d = distance fallen, and g = the gravity constant of our latitude."

I do not include the table, because it would not apply to London, but anyone desirous of computing such a table can do so by working out the above formula, substituting 32.19078 for g , the gravity constant. Mr. Blake gives in his paper the results of a series of tests of commercial shutters, and then says that if the results are carefully digested the conclusion would be reached—

"That the average working speed of commercial shutters is about three-hundredths of a second, and that while a few of these shutters may be forced to come well within this average speed for test purposes, they are made to do so at the expense of so great a loss of light that they are of but little practical use when so forced."

The following extract from Mr. Blake's paper explains so clearly the views that I hold that I prefer to give them, as they may carry more weight than my unsupported ideas :—

"Three-hundredths of a second is too slow a speed for photographing the quickest motions of animate or inanimate nature, and the successful pictures obtained with shutters of that speed are due to the fortunate coincidence between the moment of exposure and a slower phase of motion. Thus, with such a shutter, the most rapid phases of motion produce blurred plates which are thrown into the waste box, and science receives but a few special, and therefore misleading, data in place of the many which the art of photography should be made to yield. This generalisation forced itself upon Mr. Hubbard and myself after two years of patient experimentation with every conceivable form of shutter applied before, between, or immediately behind the lens; and at his suggestion, we then abandoned all work in that direction and devoted ourselves to the perfection of the focal-plane shutter, as described in the quotation from Sutton at the beginning of this paper. I know of no commercial shutter which passes more than 50 per cent. of the light which falls on the lens during its action; while the focal-plane shutter has been lying idle for twenty-five years, in spite of its ability to pass close on to 100 per cent. What may be called the light advantage of the focal-plane over an ordinary shutter is well indicated by the following considerations. With any form of shutter in which a slot one inch in width passes at a uniform velocity behind a lens one inch in diameter, the sensitive plate will receive but 50 per cent. of the light which falls on the lens during the action of the shutter. Supposing the lens to be five inches in focal length, if the slot is merely moved backward to within one quarter of an inch of the plate, 95 per cent. of the light falling on the lens during the action of the shutter will reach the plate. Further consideration of this subject shows that in any single shutter placed immediately before, between, or behind a lens of one-inch opening, the percentage of light passed

is equal to the number of inches of slot travel, less one, times the units of light per inch. Thus a one-inch slot travels two inches in uncovering and covering the lens. Calling the total light falling on the lens during the action of the shutter equal to 100 units, we have 50 units to each inch of slot travel. Slot travel two inches minus one = 1 in. $\times 50 = 50$, which is the percentage of light passed. A two-inch slot would travel three inches, and there would be $33\frac{1}{3}$ units of light to each inch: $3 - 1 = 2 \times 33\frac{1}{3} = 66\frac{2}{3}$, the percentage of light passed. Continuing the computation, it will be seen that a three-inch slot would pass 75 per cent. of the light, a four-inch slot 80 per cent., and so on until, in order to pass 90 per cent. of the light, it would be necessary to have a slot nineteen inches long, pass by the lens in the same time that the focal-plane slot passes over five-hundredths of an inch, which is the diameter of the cone of rays from a one-inch lens of five inches focus at a point one-quarter of an inch in front of the sensitive plate. Opposed to this tremendous advantage, there is only one theoretical objection to the principle of the focal-plane shutter, and that is, that all parts of the sensitive plate are not exposed at the same time. But practically this objection does not hold good, since the velocity of slot motion may be made so great that there is no sensible distention of the phase of motion of the moving object. Moreover the possibility of any distension may be eliminated by setting up the camera at such a distance from the moving object that the angular value of its image on the sensitive plate shall be equal to or slightly less than the width of the shutter slot. The focal-plane shutter which I now show you is the outcome of the experimental work carried on by Mr. Hubbard and myself during the last four years. It consists of a mahogany case attached to the back boards of an $8\frac{1}{2}$ by 6 $\frac{1}{2}$ camera. The case is 18 $\frac{1}{2}$ inches long, 9 $\frac{1}{2}$ inches high and $\frac{7}{8}$ inch thick, outside measurements. At its centre is an opening in which may be placed a focussing screen or 4 by 5 plate holder. Within the case are two screens 5 $\frac{1}{2}$ by 5 $\frac{1}{2}$ and 4 $\frac{1}{2}$ by 5 $\frac{1}{2}$ inches in size. They are made of a very light framework of bamboo covered with thin tissue paper rendered thoroughly light proof by the application of a mixture of lamp black and shellac. These screens run freely on two brass wires strained lengthwise across the wooden case above and below the plate holder opening. Attached to the base of the large screen is a piece of thin sheet steel pivoted to the corner of the base at one end and divided on its lower edge into ten notches, one-tenth of an inch apart. Attached to the opposite corner of the base of the smaller screen is a screw stud over which the notched piece may be slipped. By this simple bit of mechanism the two screens may be at will attached to each other, with a slot between them varying from one tenth of an inch to one inch in widths by tenths. The exposure is made while this slot is passing over the sensitive plate, motion being imparted to the screens by means of a steel pin connecting them with a wooden piston, which in turn is driven through a brass tube by compressed air. With a $\frac{1}{10}$ inch slot in connection with a 2 B Dallmeyer lens, three tests for speed of shutter have given the following results:—

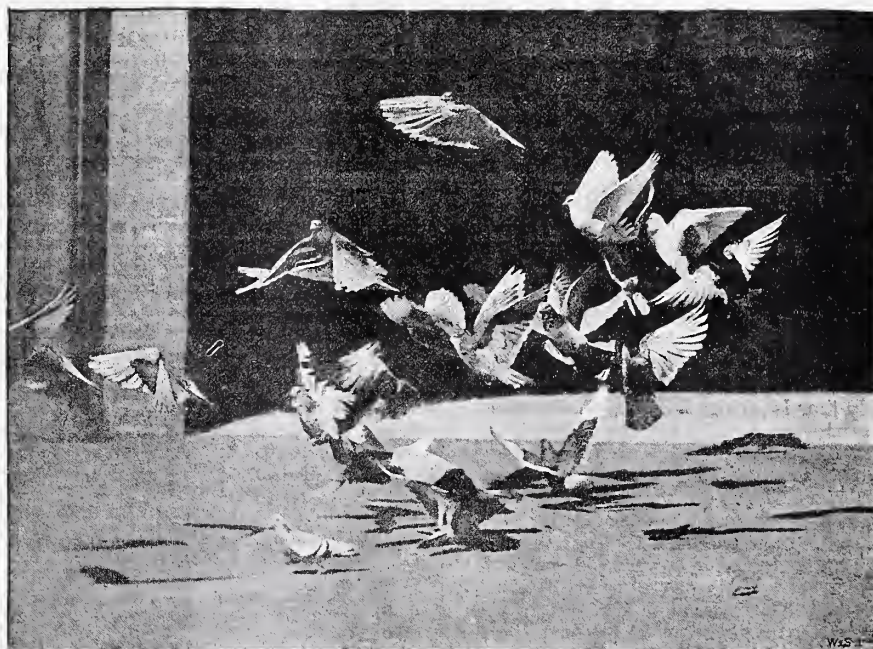
First test	...	...	...	0.0006	second
Second "	...	...	...	0.0006	"
Third "	...	...	...	0.0005	"
Mean	...	...	...	0.0006	"

This speed, which we may call half a thousandth of a second, is a severe tax upon the ability of the most rapid lenses and plates to produce pictures. It is obvious that the speed of the shutters may be increased to any desired extent by simply narrowing the width of the slot, but until the market affords us quicker lenses or plates, there will be no practical advantage in making exposures of less than half a thousandth of a second."

Accompanying the above article is a very fine collotype—which we reproduce—of some pigeons settling down to feed, which was taken with a focal plane shutter in $\frac{1}{1,000}$ of a second, and as the author states, "the eyes and feathers of the birds are as sharp as if they had been standing still." An artist to whom this picture

was shown said it was the finest piece of work he had ever seen, and personally I do not call to mind anything at all approaching it in exquisite detail and sharpness. I have, unfortunately, no such wonderful results to show, as I have, hitherto, been content with less ambitious results. In the face of this, however, I intend to have a special shot at some pigeons, and also a horse at full trot next month, and I also intend to test practically the fastest commercial shutter against one of the focal-plane shutters modified by myself. The shutter as described by Mr. Blake is unnecessarily large, I think, and a much more convenient instrument can be obtained by making one out of black cloth or indiarubber cloth with a slit in it, and arranged to roll over a roller at the top and one at the bottom, in this way it is possible to make one about half as thick again as an ordinary double back, such being the principle of Loman's shutter.

There are one or two points which now call for notice. The first is that an objection has been raised that this



shutter is likely to cause dust. It is true, of course, that given a camera which is dusty inside, the action of the shutter might raise a dust. Personally I should raise a dust too if I found anybody using a camera in such a state. The objection of distortion of the image of a moving object Mr. Blake has already partially disposed of, and this can again be obviated further by making the slot travel up or down, and not across from side to side; few objects move up and down, whilst many move across the field of view. Another point is that the testing of such a shutter as the focal-plane shutter, as pointed out by a correspondent in the *American Amateur Photographer*, March, p. 110, cannot be accurately carried out by obtaining the blurred image of a falling body, because if the image of the falling body moves in the same direction as the slot of the shutter, it is possible and necessary that there should be some extension of the blur, whilst if the shutter moved in the opposite direction the movement of the falling body would be obviously curtailed. The best method of testing this particular shutter would be by means of the chronograph invented by Mr. Wilson, of the Paget Prize Plate Company, and I hope to be able to give some results of the focal-plane shutter speeds

tested in this way at some future time; but I am convinced that a more general and extended use of this shutter would give us less monstrosities in the shape of under-exposed silhouette-like instantaneous studies than we sometimes now see.

The Properties of Paramidophenol

COMPARED WITH THOSE OF HYDROQUINONE
AND EIKONOGEN.

WE have already noted the application of paramidophenol as a developer; we now give a précis of an article by MM. Augusto and Louis Lumière bearing the above title, which appears in our contemporary, *L'Amateur Photographe*. The authors have practically adopted the plan employed by M. Reeb, whose notes on eikonogen and hydroquinone we have already given.

(A) *Oxidation in Air*.—When 12 per cent. solutions of paramidophenol, hydroquinone, and eikonogen are simultaneously exposed in open vessels to the action of the air it will be seen that the paramidophenol oxidises first, the eikonogen some hours after, and finally, after some time, the hydroquinone. The product of the oxidation of paramidophenol, which is probably quinonimide, is insoluble in water, therefore aqueous solutions of this agent do not discolour, but a black precipitate is rapidly formed, which dissolves in ammonia and the fixed alkalies with a violet colour, and in nitric acid with a red colour. In the case of eikonogen the oxidized solution is a deep brown, which turns green on the addition of ammonia or fixed alkalies and red with nitric acid. The oxidized solution of hydroquinone is reddish and assumes a yellowish tinge on the addition of ammonia, but is decolourised on the addition of nitric acid.

These reducing agents, mixed with the alkaline carbonates, give the same substances as are formed during development. But the products of oxidation behave in a very different manner when impregnating gelatine; in the case of hydroquinone and eikonogen they communicate to the gelatine a yellow stain, whilst with paramidophenol no stain is caused. That this is really true is proved from the following fact, that yellow stains invariably make their appearance when developing several plates in the same bath, whilst with paramidophenol it is possible to develop twenty-five 9 by 12 cm. plates in 100 c.cm. of the developer without any stain and without detecting any difference between the first and twenty-fifth, if they have all been exposed under the same conditions.

(B) *The Action of Oxygen*.—A current of pure oxygen, when passed through aqueous solutions of the three reducing agents, confirms that paramidophenol is the first, then hydroquinone, and lastly the eikonogen to oxidize; the other reactions remain the same.

(C) *Action on the Salts of Silver*.—Aqueous solutions of hydroquinone, paramidophenol, and eikonogen do not reduce the haloid salts of silver without the addition of an alkali or alkaline carbonate, though the same solutions perfectly reduce the silver salts with the aid of an alkali. Neither paramidophenol nor hydroquinone possesses the property peculiar to eikonogen of reducing a solution of nitrate of silver strongly acidulated with nitric acid.

(D) *Other Reactions*.—Ferric chloride gives a bluish-violet coloration with paramidophenol, and yellow with eikonogen; with hydroquinone it gives a greenish colouration which quickly fades to a dirty yellow.

Paramidophenol has a slight acid reaction. Nitrate of lead gives no precipitate with paramidophenol and hydroquinone, but with eikonogen a greyish-violet precipitate. Bromide of potassium and hyposulphite of soda when added to a paramidophenol developer produce the same effect as with other developers.

(E) *Determination of the Reducing Power of Paramidophenol*.—The authors have employed M. Reeb's method of determining the necessary quantity of paramidophenol to reduce 1 gramme of silver nitrate, and they obtained the following figures:—

Hydroquinone	0.07 gramme.
Paramidophenol	0.14 "
Eikonogen	0.30 "

The reducing power of these three agents is, therefore, 1, 2, and 4. Practically, however, this is not taken into account, as there

is always an excess of the agent in the developer to allow for loss of power by oxidation.

Conclusions.—The three substances under examination possess, from a photographic standpoint, somewhat similar properties, whilst paramidophenol has the following advantages:—(1) It oxidises more rapidly than hydroquinone or eikonogen; it is, therefore, more energetic, and, other conditions being the same, develops more rapidly. (2) The products of oxidation are without effect upon the latent image and do not stain the gelatine, wherefore it is possible to develop a larger number of plates in the same bath than with other developers.

Varying the proportions of sulphite, carbonate, and paramidophenol, we have arrived at the following formula as the most satisfactory:—

Water	800 parts.
Carbonate of potash	40 "
Sodium sulphite	100 "
Paramidophenol	8 "

Our Contemporaries.

The *Studio* gives the following in a lecture before the Grolier Club, by Mr. Frederick Keppel:—"What shall I say of Whistler in the few moments that are left me? A whole course of lectures devoted to him alone, could not say all that is to be said of this great, original artist, and most remarkable man. There never has been a man like Whistler before, and I do not see how there can be again. As to his art: it would be presumptuous on my part to attempt to characterise it now. No artist has ever been so unmercifully ridiculed, and yet I was told by an influential English painter in Paris last summer that it is now conceded that Whistler has influenced the artists of Europe to a greater degree than any other man of this century. This is what it is to be a Master. The artists learn from him and adopt his methods in spite of themselves. As to Whistler, the man: Were I to characterise him with a scriptural quotation, it should be that prophecy concerning Ishmael of old—'His hand shall be against every man, and every man's hand against him'—or did I seek a motto from Shakespeare, it should be adapted from a description of Cleopatra: 'Age cannot wither him nor custom stale his infinite variety.' His abnormal and unparalleled egotism, his sovereign contempt for all other artists, the delight which his own works afford him, his keen mental alertness and piercing wit, and his irreverence toward all recognised authority are only a few features of his unique personality. To draw a comparison:—I have tried to converse seriously with both men, and I find that Whistler in his mental make up is not altogether unlike George Francis Train. I must refrain from relating anecdotes about Whistler; for were I to commence I should not know where to stop;—but a true picture of the man as drawn by his own hand, can be found in his recently published book which bears the quaint and felicitous title of 'The Gentle Art of Making Enemies.' Most of us would much prefer to study and practise the gentle art of making friends, but that is not what Whistler has written about—quite the contrary. Whistler still retains his American citizenship. He has long been meditating a visit to his native country—whenever he comes, may we all 'be there to see!'"

The *British Medical Journal* says: "It appears that a somewhat morbid custom exists among the Viennese of having the dead bodies of children and other persons dear to them photographed, and for this purpose the corpse used to be taken to the photographer's studio. The attention of the sanitary authorities having been drawn to the danger of the dissemination of infectious diseases by this practice, a decree has been issued by the Austrian Minister of the Interior absolutely forbidding the photographing of corpses in studios open to the public, and the photographing of bodies of persons who have died of any infectious disease by professional photographers, even in private houses. Exception is made of cases in which such photographs may be required for police or medico-legal purposes. In the case of persons who have died of non-infectious disease, the corpses may be photographed at the private residence of the deceased, subject to the approval, and on the responsibility of, the medical official whose duty it is to verify deaths. This ordinance came into force on April 1."

The *American Journal of Photography* gives the following direc-

tions for obtaining the best results on double-albumenised paper, viz.:

(A) *Silver Bath.*

Nitrate of silver 100 gram.
Distilled water 1,000 "

This bath must not have an acid reaction, and must be filtered before use, and stirred after sensitising each sheet, which is to be floated from two to three minutes.

(B) *Toning Bath.*

(1)
Acetate of soda (double-fused) 75 gram.
Acetate of soda (crystallised) 75 "
Borax (pulverised) 4 "
Distilled water 1,000 "

(2)
Chloride of gold sodium 1 "
Distilled water 50 "
Mix and filter Nos. 1 and 2 one hour before using.

(C) *Fixing Bath.*

Hyposulphite of soda 100 gram.
Distilled water 1,000 gram."

The *Photographic Times* gives the following sketch of a new invention which Mr. Frederic E. Ives recently communicated to the Franklin Institute: "When Mr. Ives first published his process, several years ago, the three negatives requisite were made in one camera from one and the same point of view, but last night he showed that, by an improvement on his heliochromic camera the three negatives representing the effect of the object photographed upon the three fundamental colour sensations, are now not only made from one point of view, by simultaneous and equal exposure, as they were three years ago, but also upon a single sensitive plate; so that the heliochromic negative is obtained with no more trouble than an ordinary one, and any number can be made in which the relation of one element to the others is exactly the same. The colour prints, also, can be made from these negatives by a single exposure, in transparent gelatine and separated only when ready to dip into the dye solutions representing the respective colour sensations. Mr. Ives showed, however, that it is not necessary to go to the trouble of making the colour prints when only lantern illustrations are required. Lantern positives, made from the heliochromic negatives with no more trouble than ordinary lantern slide were projected on the screen in the natural colours in the ordinary lantern, by means of a special front of Mr. Ives' own devising, and which was substituted for the ordinary projecting lens in about one second, so that an exhibition of ordinary lantern slides can be interspersed with projections in natural colours without causing any delays in changing from one to the other. Several such projections were shown, including some admirable views in the Park, and they were about one-third smaller than the ordinary projections, but were as sharply defined, and in as bright and true colours as those produced two years ago with the more elaborate and troublesome lantern. The lantern front used for these new projections consisted of three prisms, converging light from a single condenser and radiant to three small projecting lenses, the necessary colour screens being located just behind the objectives. Mr. Ives also showed one of two cameras which he has devised to produce the heliochromic negatives, in which three negatives are made on a single plate, the image forming rays being transmitted to the single gelatine dry plate through three reflecting prisms, and from points of view so close together (less than half an inch apart) as to make perfect registration easy of accomplishment. By the other camera the three negatives will be made from the same point of view."

Apparatus.

THE "BELLLOUX" LAMP.

MR. J. PETTINGALL, of 61, Gayhurst Road, Hackney, has sent us a specimen of his new portable dark-room lamp, to which he has given the name "Bellolux." The lamp is in one piece, but shuts up into a space 4 by 4 by 1½ in.; the bottom, top, and back are made of japanned metal, and the body of the lamp is of ruby medium, made as the bellows of a camera. The source of light is a hand night-light, which is also contained within the space above-mentioned. The price of this ingenious and useful little lamp is 5s. 6d.

Holiday Resorts and Photographic Haunts.

THE WYE VALLEY.

By A. C. W.

THERE is scarcely a mile of this beautiful river but which contains something worthy of a plate.

Commencing at Hay, there is plenty of work near the town, the Black Mountains forming a grand background from several points, and Cusop Dingle, just outside, should be explored. There are very comfortable quarters in the town. Three miles lower down will be found a beautiful old timber house called Ryds-pence Inn, with high porch and outside staircase. This would make a good resting-place. Close at hand, overhanging the Wye, are Clifford Castle and Whitae Bridge, both worthy of a plate.

Lower down the river one will find himself in a more picturesque district. At Bredwardine, a good subject is the Lion Inn, A mile further on, overhanging the water, is a large cliff called Brobury Scaur. Some good timbered views can be obtained in Moccas Park, adjoining the river. We come on now to Mornington, where the Lych Gate, Court House, and avenue of Scotch firs are quite worth a little time and attention. Next we come to Byford Court, an old stone manor house surrounded by many other old and antique houses. One mile lower down is Bridge Sollars, a very nice little spot. Just here is Offa's Dyke, a deep-wooded dingle or hollow, the road crossing it by means of a stone bridge; and also a very pretty rustic lodge is situated close by. All the way into Hereford are many nice bits, namely, the new weir, Lugas Boad, Breerton, and Belmont, etc.

When in Hereford there is plenty of work to be done—old Wye Bridge, cathedral, old churches, White and Blackfriars Crosses, old house in High Town, and many other places. Going from Hereford to Ross, there are Hampton Bishop, Fown Hope, Fawley Court (now used as a farmhouse, but should not be missed, at any rate), and Hoarwithy. With the exception of these, the scenery is rather flat.

From Ross to Chepstow there is a series of magnificent views. Plates may almost be exposed at every step. Ross itself is a pretty place, the principal places of interest being the old stone market place, the church, and Prospect. I really do not know how to separate the last route, it all being simply grand, but the principal places are Symonds Yat, Goodrich, Monmouth, and Tintern. Tintern Abbey should not be missed on any account, as it is one of the most lovely ruins in England, and would contribute some beautiful views. About two miles nearer to Chepstow is what is called the Wyndeclyffe. It is a vast cliff, and from it can be seen the coast, Bristol Channel, and ever-winding Wye.

All along the river to Chepstow from here are a series of beautiful views, chiefly wooded, and ending in an abrupt precipice, on the top of which stand the ruins of Chepstow Castle.

ENFIELD.

By H. WALKER.

AMONG the numerous pretty spots in suburban London, there can be few which combine in a greater degree all the beauties of nature in its best garb, with just the sweet little bits so dear to the amateur photographer, as White Webb's Park and its surroundings near Enfield.

On leaving the Great Northern station at Enfield go down into the main road, and there keeping to the right along Chaseside, past the Holly Bush Inn, up Brigadier Hill, we soon arrive at the commencement of our picturesque bits, for a sweet little bend of the lane with high banks, delightful old trees, and a figure or two if possible, makes as pretty a bit, with the gleam of an afternoon sun to light it up, as may be met with; at the entrance to this lane a gate leads us by a path through fields, across a stream with old trees and rustic bridge, out on to Clay Hill, where, taking the left hand, we come to the "Rose and Crown," a little roadside inn, nothing in itself, but, aided by surroundings, a most effective exposure can be made. About a couple of hundred yards from the "Rose and Crown," a turning on the left leads to a gate, which opened, we at once find ourselves in White Webb's Park, and here as we walk through, what a wealth of subjects present themselves—grand old trees, a bit o

the New River with pretty bridge, trees and shrubs on banks lending themselves to picture making for the most "artistic" of our "brethren," not to speak of cattle studies such as would make the hand-camera man's mouth water.

At the other end of the Park is a quaint old inn rejoicing in the odd title of "King James and the Tinker," well worth a plate, although the modern rage for whitewash and palings has gone a long way towards spoiling it. Round about this old inn and its outbuildings there are nearly always innumerable animal studies to be obtained, cattle in the farm enclosure, sheep in the meadow opposite, and when I was there a week or two since, some two score of pigs, old and young, were disporting themselves in the road, much to the amusement of the numerous cyclists, pedestrians, and others who congregate about here on Saturday afternoons. The return may be made by the other side of the park, where may be found many suitable studies of forest trees, in the woods behind White Webb's Hall, and on emerging from the park do not forget the pretty little combinations of wood and water that may be made both to right and left of the road; after which keep straight on till a small church is seen, and there turn to the left, when immediately opposite you will be found the "Fallow Buck" inn; photograph it if you please (I have seen many a pretty photograph made up from worse materials), but if you are a believer in the cup that cheers, etc., and it is at all near the time, stay and have tea in the comfortable old parlour, and you will not have to complain of the price of the meal or its quality.

All this is well within an afternoon's excursion, as the station can be reached from the "Fallow Buck" well within half an hour, and I fancy photographers who have once been there, will not rest till they go again.



Societies' Meetings.

Ashton-under-Lyne.—On the 15th inst. Mr. T. C. Glazebrook gave a very interesting demonstration on "Toning Obernetter Paper," and finishing the prints with either matt or enamelled surface, after which the Hon. Sec. (Mr. G. H. Dean) gave a demonstration on "Bromide Printing." The Secretary also showed a set of developing trays made by the Xylomite Co., London, and specimens of prints on kallitype. The new members passed at the last Committee meeting are Mr. Abel Bradley, Master A. Bradley, Miss Hirst, Mr. Morris, Mr. John Horrop, Mr. C. Ford, Mr. T. Williams, Mr. G. H. Partington, and Mr. Moss.

Croydon.—A number of members started early on the 18th inst. for an enjoyable three days' excursion which had been arranged by the Secretaries. Portsmouth was reached betimes, where the party was joined by the Treasurer. The harbour and vicinity having yielded a store of snap-shots, a trip up the Solent as far as Cowes was taken. Later on, Ryde was visited, and finally Sandown, where the President appeared on the scene and organised a plan of campaign, which was subsequently carried out. The ground covered included Shanklin, Luccombe, the Landslip, Bonchurch, and Ventnor. On the 25th inst. Greenwich will be visited by boat; members to meet at Old Swan Pier at 2.30.

East London.—The ordinary meeting was held on the 20th inst., when a fair number of members were present. A very ingenious changing bag and focussing cloth combined, of his own invention, was shown by one of the members. Various prints were shown, including silver, new kallitype, bromide, and Celerotype, amongst which were several excellent instantaneous pictures. The next general meeting will be held August 17th.

Holborn.—The usual weekly meeting was held on the 17th inst., Mr. R. D. Lowe in the chair, when Mr. R. Luxton gave a very instructive and interesting lecture on "Photo-mechanical Work." He made special mention of the method of copying the picture, and spoke of the various stages through which the plate passes, beginning with the development and subsequent intensification of the wet plate, varnishing, the preparation of the zinc plate, the printing, washing, rolling-up, and biting in. He gave various formulae and numerous hints during his lecture. He showed a wet plate after intensification, and zinc plates in the various stages of the process.

Lewisham.—At the meeting on the 17th inst., Mr. Stodart in the chair, in opening the discussion on "Hand Cameras," Mr. Howell said that why most people failed was because they used them on unsuitable subjects or without enough light, and very often with the sun shining in the lens. As an instance, he mentioned that he saw somebody with a "Kodak" taking a snapshot at a witness in the police court. He passed round several good prints taken by himself,

and in answer to a question said he generally used stop $f/11$ with Paget plates. Several other members who had brought their cameras joined in the discussion, but it was very evident that most of them had more failures than successes; in fact, one said that he had only 10 per cent. at all passable. Next meeting, August 7th; results of outing to Virginia Water and Windsor will be shown.

Lowestoft.—A meeting was held on the 17th inst., Mr. W. Stringfield, in the absence of Mr. F. Mayhew, presiding. Prints and negatives were handed round, amongst them a "Wood Scene," by Mr. Emuss, which was greatly admired. Mr. A. M. Smith showed two prints, one of a camp kitchen, taken during a late encampment of the volunteers on the Denes, also an enlarged print of Mr. Gladstone leaving the station on the occasion of his visit to Lowestoft in 1890. The Chairman showed a few examples of a new method of printing, after which a few slides were thrown on the screen. The meeting terminated with a resolution that each member be requested to produce next month all the slides they had previously exhibited, with a view of selecting those most suitable for a public exhibition, to be held in the autumn, on behalf of the funds of the Society.

Newport (Mon.)—On the 9th inst. there was an outing to Caldicot and Portskeewett. A good muster of members left Newport by the 1.58 a.m. and journeyed to Severn Tunnel Junction. The Hon. Secretary, who piloted the members, then led the way to Caldicot, where plates were exposed upon the picturesque church and its environment. Caldicot Castle was the next point of interest, and as the visitors were met by the courteous owner, who pointed out the special features of interest, many bits of picturesque and archaeological scenery were secured. Passing on to Portskeewett, pictures of haymakers, the village stocks—these being in an excellent state of preservation—the church, etc., were obtained. The Black Rock Hotel was now keenly looked for, and at this destination the members enjoyed a good tea. Spare plates were here soon used up upon the surrounding bits of marine and rural scenery, groups, etc., the return journey being made by 8.30 p.m. Some good practical work was done, cameras being at work up to whole-plate size.

Richmond.—The ordinary meeting was held on the 17th inst., Mr. F. P. Cembrano in the chair. Mr. Ardaseer showed Adams' whole-view printing frame. The subject for discussion was "Cloud Photography," and the Chairman, in summing up, remarked on the fine results obtained by reflecting the clouds by means of a mirror of black glass worked optically true. He also referred to the well-known cloud photographs taken at Kew under the direction of Mr. Whipple. On the 18th the Club outing to Windsor took place. There was a very small attendance, however, they enjoyed their afternoon, and secured some good views of the Castle and Eton.

Sheffield Lantern.—An ordinary monthly meeting of this Society was held on the 16th inst., when Mr. F. Mottershaw gave an interesting demonstration on the "Working of Alpha Paper." Mr. Copley took the chair.

Southport Social.—On the 15th inst. Mr. Cross gave a very interesting demonstration on "Platinotypes." After explaining the process of printing, he proceeded to develop a number of prints which he had made ready for the occasion, and which gave very gratifying results. Various discussions followed, after which a vote of thanks was given to Mr. Cross for his demonstration. On the 18th inst. a number of good pictures were obtained at Parbold and Appleby Bridge, the ladies again being to the fore. To-day an outing is arranged for the Botanic Gardens at four o'clock. Next Wednesday evening a demonstration on "Carbon Printing" (single transfer process) will be given.

Spen Valley.—There was a large attendance of members at the July meeting of this Society. The President (Dr. Farrow) presided, and gave a brief but interesting *resumé* of the progress made in the photographic world since the last meeting of the Society. Mr. R. Smith read an able and instructive paper on "Flash Light Photography," exhibited specimens of portraits he had taken with the flash, and demonstrated the whole method of procedure. Questions relating to the comparative merits of the Ilford and Thomas plates, and the working of kallitype paper were discussed, and an enjoyable evening was spent.

Stockton.—The usual monthly meeting was held on the 15th inst. Subject for discussion, "Printing Processes." Dr. Stainthorpe explained the working of the carbon process and platinotype; the general favourite seemed to be the latter. On the 16th and 17th a few of the members joined the Shakespearean Society on an excursion to Stratford-on-Avon, and fortunately had fine weather; the town itself is a paradise for photographers, and well repaid for the long journey, bringing back many very pleasing reminiscences.

Woolwich and District.—An outdoor meeting was held on the 18th inst., the members starting from Old Plumstead Church, and working towards Wickham and Bostal Woods; some very good pictures were obtained, and a pleasant afternoon was spent. Indoor meeting on Tuesday, 28th inst., at 7.45 p.m., Rectory Place School, Woolwich.

**"Amateur Photographer" Dark-
Rooms, 1891.**

THE "DARK-ROOMS" kindly placed at our service for the use of amateur photographers are classed as follows:—

- a* Amateur *d* Dealer or professional.
h Hotel *s* Photographic society.

Letters of Introduction, Three Penny Stamps.

<i>a, d</i> (2) Aberdeen	<i>d</i> Colwyn Bay	<i>d</i> (2) Preston
<i>d</i> Aberystwith	<i>a</i> Coniston	<i>h</i> Prince's Risboro'
<i>d</i> Addingham, Yorks*	<i>d, s</i> Crewe*	<i>d</i> Ramsgate
<i>d</i> Amsterdam	<i>d</i> Crewkerne*	<i>d</i> Reading
<i>d</i> Andover, Hants*	<i>d</i> Croydon*	<i>h</i> Redditch
<i>s</i> Ashton-under-Lyne		<i>d</i> Rhayader
<i>d</i> Aylesbury, Bucks	<i>a</i> Dalton-in-Furness	<i>d</i> Richmond, Surrey
	<i>d</i> Darlington	<i>a</i> Ringwood, Hants
<i>d</i> Banff, N.B.	<i>d, h</i> Dartmouth	<i>d</i> Rochdale
<i>d</i> Barmouth, N. Wales	<i>d</i> Deal*	<i>a</i> Rodley, near Leeds
<i>a</i> Barnsley*	<i>d</i> Derby	<i>d</i> Romford
<i>d</i> Barnstaple	<i>a</i> Devizes*	<i>d</i> Royston
<i>d, s</i> Bath	<i>d</i> Devonport	<i>d, h</i> Ryde, Isle of Wight
<i>h</i> Beaconsfield	<i>h</i> Dingwall, N.B.	
<i>a</i> Bedford	<i>a</i> Doncaster	<i>a</i> St. Agnes
<i>d, s</i> Belfast	<i>u, a</i> (2), <i>h</i> (2) Douglas, Isle of Man	<i>d</i> St. Andrews, N.B.
<i>d</i> Belper	<i>d</i> Dover	<i>h</i> St. Asaph
<i>d</i> Bergen, Norway	<i>d</i> Dresden, Germany	<i>h</i> St. Bees
<i>d</i> Berlin	<i>d, h</i> Dublin	<i>a</i> St. Helens*
<i>d</i> Bettws-y-Coed	<i>h</i> Dunblane, N.B.	<i>a</i> St. Heliers
<i>h</i> Bex, Switzerland	<i>d, s</i> Dundee	<i>a</i> St. Ives, Hunts*
<i>d</i> Bexhill-on-Sea*	<i>a</i> Dungarvan, co. Waterford	<i>h</i> St. Mellons
<i>d</i> Birchington-on-Sea*	<i>a</i> Duns*	<i>d</i> St. Monans, N.B.
<i>a, d, s</i> Birmingham	<i>d</i> Durham*	<i>h</i> St. Neots
<i>d</i> Blackburn, Lancs		<i>d</i> Sandgate, near Folkestone
<i>d</i> Blackheath	<i>d</i> Eastbourne	<i>d</i> Sandown, Isle of Wight
<i>h</i> Blakney, nr. Severn Bridge	<i>d</i> East Molesey, Surrey	<i>a, d</i> Scarborough
<i>h</i> Bodiam	<i>s</i> East Southsea	<i>h</i> Seddlescomb, near Battle
<i>d</i> Bodmin	<i>h</i> Ebbw Vale	<i>a</i> Shaftesbury
<i>d</i> Bolton	<i>d</i> Edinburgh	<i>d</i> Shanklin, Isle of Wight
<i>h</i> Bonar Bridge	<i>s</i> Egburnt	<i>d</i> (2), <i>s</i> Sheffield
<i>h</i> Boro' Bridge, Yorks	<i>h</i> Ennistymon, co. Clare	<i>h</i> Shepton Mallet
<i>d</i> Bournemouth	<i>a</i> Enfield Town*	<i>d</i> Shrewsbury
<i>d</i> Bournemouth, West	<i>d</i> Eton	<i>h</i> Sleaford
<i>d</i> Bradford	<i>a, d</i> Evesham	<i>d</i> (2), <i>h</i> Southampton
<i>d</i> Bramley, near Leeds	<i>d</i> Exeter	<i>h, d</i> Southend-on-Sea
<i>d, s</i> Brechin, N.B.*		<i>a, d</i> Southport
<i>h</i> Bridge, near Canterbury	<i>s</i> Falkirk	<i>a, s</i> Southsea
<i>d</i> Bridlington Quay	<i>d</i> Falmouth*	<i>d</i> Southwell
<i>h</i> Brigg, Yorks	<i>d</i> Faversham	<i>a</i> Stamford
<i>d</i> Brighton, Hove	<i>d</i> Felixstowe*	<i>a</i> Steyning
<i>d, h</i> Brighton	<i>d</i> Filey	<i>d</i> Stockton-on-Tees
<i>d</i> Bristol	<i>d</i> Finchley	<i>a</i> Stoke-on-Trent
<i>h</i> Broadway, Worcester	<i>d</i> Fleet	<i>a</i> Stony Stratford
<i>d</i> Bromley, Kent	<i>h</i> Fochabers, N.B.	<i>a, d</i> Stourbridge
<i>h</i> Brough, Westmoreland	<i>d</i> Folkestone	<i>d, h</i> Stratford-on-Avon
<i>d</i> Burnley*	<i>a</i> Four Ashes, nr. Stourbridge*	<i>d</i> Stroud
<i>s</i> Burslem	<i>a</i> Frodsham	<i>h</i> Sudbury, Suffolk
		<i>d</i> Sunderland
<i>a</i> Cadiz, Spain*		<i>h</i> Sutton Bridge
<i>h</i> Callander, N.B.	<i>a</i> Galashiels, N.B.	<i>h</i> Sutton
<i>h</i> Camborne	<i>d</i> Galway	<i>d</i> Swindon
<i>d, h</i> Cambridge	<i>a</i> Genoa	<i>h</i> Symond's Yat, near Ross
<i>d</i> Cardiff	<i>h</i> Giant's Causeway, Ireland	
<i>d</i> Carnarvon*	<i>d</i> (2) <i>s</i> Glasgow	<i>d</i> Taunton
<i>h</i> Capel-Curig, N. Wales	<i>s</i> Glenalmond, N.B. (nr. Perth)	<i>a</i> Tavistock*
<i>a</i> Chalfont St. Peter, Mid.	<i>h</i> Glenarm, Belfast	<i>d</i> Teignmouth
<i>d</i> Cheltenham	<i>d</i> Gloucester	<i>a</i> Thornton Dale, nr. Pickering
<i>d</i> Chepstow	<i>d</i> Gorleston	<i>h</i> Thorpe
<i>d</i> Chester	<i>a</i> Goring-on-Thames	<i>h</i> Tintern Abbey
<i>a</i> Chesterfield	<i>a</i> Gravesend	<i>d</i> Todmorden
<i>a</i> Chipping Sodbury	<i>d</i> Great Yarmouth	<i>d</i> Torquay
<i>d</i> Christchurch		<i>d</i> Tring
<i>a</i> Cinderford	<i>a</i> Halifax	<i>h</i> Tunbridge Wells
<i>d, h</i> Cirencester	<i>d</i> Handsworth*	<i>a, d</i> Tynemouth
<i>d</i> Clacton-on-Sea	<i>d</i> Hanley	
<i>s</i> Cleckheaton	<i>d</i> Harrogate	<i>s</i> Uttoxeter
<i>d</i> Clevedon*	<i>d, h</i> Hastings	
<i>d</i> Clifton	<i>s</i> Havant	<i>a</i> Ventnor
<i>a</i> Clitheroe	<i>d</i> Hereford	<i>a</i> Vienna
<i>d</i> Colchester	<i>d</i> Hexham	
<i>h</i> Colnbrook	<i>h</i> Holbeach	<i>h</i> Wadebridge
<i>h</i> Congleton	<i>a, d</i> Hull	
		<i>d</i> Newark, Notts
		<i>d</i> Newcastle-on-Tyne
		<i>a</i> Newport, Mon.
		<i>a</i> Newport, Pembroke
		<i>a</i> Niton, Isle of Wight
		<i>d</i> Norwich
		<i>d</i> Nottingham
		<i>d, h</i> Lancaster
		<i>d</i> Larne
		<i>d</i> (2) Leamington
		<i>d</i> Lechlade
		<i>h</i> Ledbury
		<i>a, d</i> Leeds
		<i>a, d</i> Leicester
		<i>d</i> Leek, Staffs
		<i>a</i> Lenzie, N.B.
		<i>d</i> Leytonstone, Essex
		<i>d</i> Lincoln
		<i>d, s</i> Liverpool
		<i>h</i> Lizard, Mullion
		<i>d</i> Llandudno*
		<i>d</i> Llanidloes*
		<i>d</i> London, Aldersgate, E.C.
		<i>d</i> Borough, S.E.*
		<i>d</i> (2) Charing Cross Road, W.C.
		<i>d</i> Charterhouse Sq

NOTE.—At the time of going to press we have not received signed authority for the use of "Dark-rooms" marked * but they were all placed at our disposal last year, and are doubtless available.—Ed. AM; PHOT:

d Wakefield	d Winchester
h Warwick	h Wrexham
d Waterford	d, h Windsor and Eton
d Watford	d Wisbech
d Wath-on-Dearne	d Wolsingham
a Wellington, Salop	a Wolverhampton*
d, s West Hartlepool	a Worcester
h Westgate-on-Sea	d, h Worthing
d Weston-super-Mare	
h Wetwang, York	a Yarm
d Weymouth	d Yeovil*
d Whitby	a, d York
d Wimbledon	d Youghal

APPLICATIONS for letters of introduction must be accompanied by **three penny stamps**. Full particulars are given as to charges (if any); plates, chemicals, etc., kept in stock by dealers; terms for temporary membership of societies, etc., etc.

THE OWNER of Dark-Room will be advised by same post as the applicant. In order to prevent delay, all applications should be addressed to the Editor, **AMATEUR PHOTOGRAPHER**, 1, Creed Lane, London, E.C., and *plainly* endorsed "Dark-Rooms."

CONTINENTAL DARK-ROOMS.—Information can be supplied respecting many Dark-Rooms on the Continent, and addresses given of firms who stock photographic materials.

Lynton and Lynmouth.—Messrs. Vickery Bros. advise us that their studio and dark-room for amateurs is now completed, and will be found in perfect order; plates and chemicals are stocked.

Vitrified Photographs.—Messrs. Oeffelein and Co., 54, Berner's Street, W., are introducing a new way of using photography for decorative purposes. A photographic transparency is made on a specially prepared plate, and the image is then burnt in, the result being that the picture is indestructible by damp, though, of course, the glass could be broken. The photographs can be in a variety of colours, and it is evident that such productions will be found useful in cases where stained glass is now used.

English v. French Plates.—A lady correspondent writes us: "Would the following hint be of use to photographers going on the Continent? I continually see the question asked if English plates are to be got abroad. There is always a difficulty in getting them, so as I live a great deal abroad and have a camera $7\frac{1}{2}$ by 5, a friend has cut away one-sixteenth of an inch each side of my dark-slide, so that I can use a foreign plate of 13 centimetres by 18. I daresay other sizes could be arranged in the same way. Lumière plates are always to be got and are not expensive."

To Correspondents.

All communications for these columns are to be addressed to **The Editor, "Amateur Photographer," 1, Creed Lane, Ludgate Hill, London, E.C.**

RULES.

1. Write clearly and distinctly on one side of the paper only.
2. Write each Query or Answer on a separate sheet of paper.
3. Write the name and address legibly on the back of each communication, and sign all Queries and Answers with name or *nom de plume*.
4. All matters for these columns **MUST** be received by **TUESDAY MORNING'S POST**.
5. The Editor does not undertake to answer questions by post.
6. In answering Queries, correspondents are requested to mention, in every instance, the *number and full title of the query* referred to.

QUERIES.

4876. **Canterbury.**—I am going to Canterbury shortly, and should be very much obliged for any news as to photographing the Cathedral (interior and exterior), where to get permission, and what time during the day I can get ins de? Also a cheap, respectable place to stop at? And any other hints would be useful.—**ANTUPE.**

4877. **Maldstone and Ashford.**—Two cyclists would be glad of any information as to what to photograph in this part of Kent during a week's stay; thatched cottages and "old world" scenery preferred.—**H. AND F.**

4878. **Fixing Bath.**—Will the omission of liq. ammonia from the fixing bath affect the permanency of albumen silver prints?—**HIBERNICUS.**

4879. **Exposure of Ilford Plates.**—Will anyone explain the following: 1 use Ilford slow plates, "Fondur" hydroquinone developer. 1 expose a plate in June, 3 p.m.; subject, a house (near view); light, diffused; $f/44$. Wormald's tables give about 7 sec. exposure under these circumstances. Result, over-exposed negative, while 3 sec., or less than half Wormald, gives good result. Again July, diffused light, church (near view), noon, $f/64$; Wormald gives 12 sec. Two seconds yielded a capital negative. I have always found that plates exposed according to Wormald's tables give poor, thin negatives, showing evidence of over-exposure, while half, or even quarter, that exposure gives good results. I reckon Ilford slow plates as "30 times"?—**HIBERNICUS.**

4880. **Enlarging Room.**—Further, on my query of 14th inst. Would ruby varnish be better for the window than the red and yellow tissue paper? How could it be got off the glass, as on leaving house I should give all up in same condition as when I entered on tenancy?—**J. I. H.**

4881. **Enlarging Camera.**—Is Griffiths' fixed enlargement camera a reliable apparatus? Is it for day-light or artificial light? Can the quarter-plate be enlarged to whole-plate direct, i.e., without enlarging to half-plate positive first?—**J. I. H.**

4882. **Toning Bath.**—Can anyone kindly tell me what results can be obtained with the following toning bath:—

Borax	6 gr.
Carbonate of soda .. .	6 "
Chloride of gold .. .	1 "
Water	8 oz.

and also how many half-plate prints it ought to tone?—**X. Y. Z.**

4883. **Canterbury and Sandwich.**—Hoping to visit both the above places shortly, I shall feel obliged if some correspondent will kindly say what are the principal places worth photographing, and, if possible, state the time of day when exposures can best be made, length of exposure, etc., and any other hints that would be useful to a novice? Plate to be used, Paget or Ilford ordinary, R.R. lens.—**LUX EXPECTO.**

4884. **North Wales.**—I hope to spend two weeks

Wood Green.—The amateur photographers in the northern suburbs of London will be glad to hear that they can now purchase photographic plates and chemicals of Mr. Charles Coulter, chemist, Green Lanes, Wood Green.

Mr. E. A. King, the inventor of the "Popular" hand-camera which has already had a most extensive sale, has removed his show rooms and works to 133, Fulham Road, S.W., three minutes' walk from South Kensington Station. Many of our readers will doubtless give him a call, and inspect the "Popular" camera and his general stock.

Wormald's Exposure Book.—Mr. A. R. Wormald has sent us a copy of the sixth edition of his well-known exposure tables. He has added to it a list of photographic dealers and their addresses, which, although far from complete, will be found useful. The tables are so well known, and are so deservedly popular, that they need no words of ours to recommend them.

"Amateur Photographer," 1891, Lantern Slide Competition (Fourth Year).—Prizes: Gold, Silver, and Bronze Medals, and Certificates in each class. Competitors to enter only *one* class; every competitor to contribute *ten* slides, and a "lantern slide portrait" of him or her self.

CLASS I.—Landscape, Sea Pieces, and River Scenery, with or without figures.

CLASS II.—Portrait and Figure Studies to include in-door or out-door pictures.

CLASS III.—Architecture, Interior or Exterior.

CLASS IV.—The Fine Arts, which may include copies of Pictures, Engravings, Sculpture, Art Metal Work, China, Bric-a-brac, etc.

NOTE.—Every Competitor must send descriptive Notes.

Past prize-winners will be awarded "Nippee" or progressive medals, *should they win a medal of the same value as that which they have been awarded in past Lantern Slide Competitions.*

All slides must be received on or before the 30th September, 1891.

RULES, CONDITIONS, and ENTRY FORMS will be forwarded on receipt of stamped addressed envelope. The application should be endorsed, "LANTERN SLIDE COMPETITION," Editor, **AMATEUR PHOTOGRAPHER**, 1, Creed Lane, London, E.C.

"Amateur Photographer," 1891, Stereoscopic Slide Competition (Fifth Year).—Prizes: Gold, Silver, and Bronze Medals, and Certificates in each class. Competitors can only enter *one* class, and every competitor must contribute *six* slides.

CLASS I.—Landscape, Sea Pieces, and River Scenery, with or without figures.

CLASS II.—Architecture, Interior or Exterior.

CLASS III.—The Fine Arts, which may include Sculpture, Art Metal Work, China, Bric-a-brac.

NOTE.—Past prize-winners will be awarded "Nippee" or progressive medals, *should they win a medal of the same value as that which they have been awarded in past Stereoscopic Slide Competitions.*

DATE.—All slides must be received on or before October 30th, 1891.

RULES, CONDITIONS, and ENTRY FORMS will be forwarded on receipt of stamped addressed envelope. The application should be endorsed, "STEREOSCOPIC SLIDE COMPETITION," Editor, **AMATEUR PHOTOGRAPHER**, 1, Creed Lane, London, E.C.

with camera in North Wales shortly. Shall also take bicycle, and would like some obliging friend to give me a route or name a centre to stay at from which to obtain some good views.—**CYCLO-PHOTO.**

4885. **Hyde Park.**—I should be glad to know of any special views in the above park worth a few plates.—**FRED.**

4886. **Stanley's Actinometer.**—Can any reader tell me if Stanley's actinometer, used in conjunction with Ackland's exposure scale, is a correct exposure meter?—**PERSEVERANCE.**

4887. **Harrogate and District.**—I intend spending my holidays there, and should be very much obliged by learning if permission is required to photograph at Studley Royal, Ripon Cathedral, Fountains, and Bolton Abbeys; and if so, where it may be had in each case.—**V. C. B.**

4888. **Lens for Detective Camera.**—I want to fit my $5\frac{1}{2}$ in. detective Paragon by Swift to a hand-camera similar to the No. 3 Kodak, to use with a roll-holder. Would Shew's new box camera be suitable? Please give me some advice what shutter would be fast enough for taking animals in motion. Is the Thornton-Pickard quick enough, as this lens works at $f/4$?—**PENALLY.**

4889. **A-tintic Light in the Ardennes.**—I am a beginner at photography, and should be glad to know if the light is more actinic than in England at the same time of the year, also I should be glad to know if good views and nice "bits" for the photographer are to be found in the neighbourhood of Dinant and Rochefort. Also the best position to obtain a good general view of Antwerp Cathedral, and are the Ardennes very hot as a rule in August, hotter, for an instance, than the Isle of Wight at the same time?—**ARDENNES.**

4890. **How to Make Dry Plates.**—Will some one kindly tell me of a simple formula for making dry plates to develop with any standard developer?—**C. A. P.**

4891. **Photographs at Night.**—Is it possible to take photographs at night? Seascapes, with rocks and with moon very bright, seem as if they would make good pictures. As the contrast of light and shade would be very great, what would be the best method of proceeding? How long an exposure would be required?—**AMATEUR OF A YEAR'S EXPERIENCE.**

4892. Lodgings at Harrogate.—I am very much interested in the answers given to "J. W. E." re Harrogate and Ripon, as I have some ideas of spending four or five days there about the middle of August. But I am told that Harrogate is a very expensive place to stay at. Would the gentlemen give me information about cheap respectable lodgings and dark-room for changing plates? or any other information would be gladly accepted by a Lancashire lad.—**AMATEUR.**

4893. Dunoon, Kilm. Rothsay.—I am thinking of going to one of the above places in September for two weeks' holiday. Will any one inform me places in the district for half-plate camera work? also if I should have any trouble in finding lodgings, bed and sitting room, for 20s. per week—of course, without board? Any particulars would be much appreciated.—**F. HOLMES.**

4894. Barmouth.—I intend spending about ten days at this place in September, and would be glad to know of a thoroughly good house to stay at with reasonable charges.—**VERAX.**

4895. Pyro Developer.—After mixing a quantity of this developer the solution turned a brownish colour. What is the cause of this, and will it interfere in any way with development? My formula is 1 oz. pyro, 40 gr. citric acid, to 7½ oz. water. Any hints will oblige.—**WINTER.**

4896. Toning Bath.—I am using an acetate toning bath, and a few days ago made up 20 oz., putting in 4½ gr. of gold chloride. The following day I toned less than one sheet of paper, and then finding the bath was getting weak, I put another 4½ gr. in the bath and put it aside till the day following, when, on trying to tone some prints, the bath refused to act. I tested it with litmus, and finding it to be acid, I neutralised it and then made it alkali, but all to no purpose. Now ought the bath to be acid, or alkali, or neutral, and how can I recover the 8 gr. of gold still in the bath? Any advice on these or other toning points will oblige.—**J. W. W.**

4897. Matt-Surface Paper.—Using the ordinary acetate bath for matt-surface paper (Scholzig's), I find the prints tone to purple very quickly, but lose all their colour in fixing and become mealy. Should I use less gold, or would another bath be more suitable?—**MILL.**

4898. Background.—Will somebody advise me what sort of background to use under the following circumstances, for taking portraits. The windows of my room occupy a somewhat unusual position in an angle, which is best explained by a diagram. W. 1 and 2 are the windows, P is where I place my victim, and B is the space which forms a background. The principal light on the sitter comes from W. 1. The light is thrown strongly on to the wall space between the two windows, and the wall paper being of a pale terracotta colour with a dado line of an obtrusive pattern it makes an objectionable background. I tried a dark green cloth sold specially for backgrounds, but it reflects the light and gives a lighter tone on the side nearest W. 1 than

the high light on the face of the sitter. The tone darkens on the side near W. 2, but I overcome that difficulty by draping a curtain over that side. If I want a background of lighter tone than the high lights on the sitter, I suppose a white sheet will answer the purpose; but how can I obtain a medium tone such as the half-tone of a platinotype print? I should add that W. 1 is only 18 in. from the corner, and the space between the two windows is just under 6 ft.—**GRINCOO.**

QUERIES UNANSWERED.

July 10.—Nos. 4838, 4847, 4859.

„ 17.—Nos. 4860, 4861, 4863, 4865, 4866, 4868, 4869, 4871.

ANSWERS.

4842. Development.—It is a question as to exposure being right. If this is doubtful, then develop slowly; if with pyro, keep the pyro small in quantity till image is seen, then either add more pyro for density or more alkali if the plate looks under-exposed. You do not say what developer you use.—**C. HERTON LEWIS.**

4844. Exposure.—Portrait with sitter in shade, with lens at f/11, out of doors, bright light this weather. Supposing sitter to be in average light dress, an exposure of 2 sec. will be correct. The best focal length of lens for a portrait of half or quarter plate size is 10 in. or more. The lens should be of such a focal length that the sitter is about 12 ft. or more away from it. You will want to screen some of the top light off and cast a shadow on one side of sitter by a dark screen.—**C. HERTON LEWIS.**

4856. Celluloid Films.—Cause of stains probably due to film not being under the developer all the time. Contact with air during development will cause stains, or too strong a developer or too warm a temperature. Reduction may remedy the stain somewhat, but a deep stain is not likely to yield to treatment.—**C. HERTON LEWIS.**

4862. Furness Abbey.—Shall be very glad to give "Sunesis" any information about Furness Abbey or Barrow; if he will communicate with the Editor for use of dark-room for Dalton in Furness, I will give him free use of it, which is situated about one mile and a half from Furness Abbey. I may add there is no fee attached to the photographing of any part of the Abbey.—**J. A.**

4862. Furness Abbey.—No permission is required for photographing, nor, so far as I remember, is there any charge for visiting the ruins. The best views are the choir, cloisters, and chapter house. The latter requires a very short focus lens. I am sorry I cannot inform you about a dark-room. Barrow is in the tourists' dark-room list, so apply to the Editor for a letter of introduction. I do not think you will find much at Barrow beyond the docks.—**PEN.**

4862. Furness Abbey.—Some half-a-dozen plates could be profitably exposed of these grand ruins, and suggest early morning for at least two or three of the best, and one or two at midday; the rest at, say, from four or five o'clock afternoon. There are also some very pretty "bits" in the neighbourhood of ruins, which you would undoubtedly like. I am not aware that any permission is required, never having asked for any myself, and have not been interfered with. One mile away from ruins is Dalton, a pretty little town in which stands a very ancient castle keep and which makes a really grand picture, and also a many other "choice morsels" and outside the town some splendid rural scenes of the old-fashioned stamp. A dark-room can be had in Market Street, Dalton, at a stationer's; at least, could be when I was there.—**DE WELLOP.**

4864. Ilfracombe.—Mr. J. S. Catford, 4, High Street, has a dark-room for the use of amateurs, and also stocks Ilford plates, etc.—**CARBONATE.**

4867. Toning and Fixing in one Bath.—The following is a simple bath suggested by Mr. W. K. Burton:

Chloride of gold	6 gr.
Nitrate of lead	3 "
Hyposulphite of soda	3 oz.
Distilled water	20 "

Put the prints into the toning bath without washing.—**PEN.**

4867. Toning and Fixing in one Bath.—I think "Gobang" will find the following good:

Water	24 oz.
Hyposulphite of soda	6 "
Sulphocyanide of ammonium ..	1 "
Acetate of soda	1½ "
Saturated solution of alum ..	2 "

Fill the bottle containing this with scraps of sensitised paper and leave it for a day, then filter and add the following:

Water	6 oz.
Chloride of gold	15 gr.
Chloride of ammonium	40 "

Leave the prints in bath till desired colour is reached.—**PEPO.**

4867. Toning and Fixing in one Bath.—The following is a formula given by the Blackfriars Company for Celerytype:

Water	24 oz.
Hyposulphite of soda	6 "
Sulphocyanide of ammonia ..	1 "
Acetate of soda	1½ "
Saturated solution, alum ..	10 "

Fill the bottle containing this solution with scraps of sensitive paper, bad prints, etc.; filter, and allow to stand for one day; then add:

Water	6 oz.
Chloride of gold	15 gr.
Chloride of ammonia	30 "

With this bath the prints require no preliminary washing. The prints are plunged direct into the solution, and are allowed to remain until the desired tone is arrived at.—**ENTERPRISE.**

4867. Toning and Fixing in one Bath.—The following bath suits Aristotype and Celerytype papers:

Water	10 oz.
Hypo	2½ "
Ammonium sulphocyanide ..	2½ drms.
Acetate of soda	1½ "
10 per cent. solution of alum ..	4 oz.

Add to this cuttings from unfixed sensitised paper, or else:

Water	1 drm.
Silver nitrate	12 gr.
Table salt	12 "

After shaking, let it rest for one day, filter, and add:

Water	2½ oz.
Gold chloride	6 gr.
Chloride of ammonia	12 "

Mix, and the bath is ready for use. Other baths are given on page 341 of "The American Annual of Photography." The one given is recommended in the maker's formulae.—**CARBONATE.**

4870. Photographs in Churchyards.—The churchyard is the clergyman's freehold, therefore he has a perfect right to stop you taking views therein; but I should not think many men would be so particular.—**PEN.**

4870. Photographs in Churchyards.—Certainly, a clergyman has a right to prevent you photographing in the churchyards belonging to their church. If you are desirous of doing so, why not ask permission? I am sure you would rarely be refused. I have never been.—**PEPO.**

4872. Hydroquinone.—"C. P. S." will find the following a thoroughly good developer:

No. 1.	
Hydroquinone	64 gr.
Sodium sulphite	64 "
Potassium bromide	16 "
Citric acid	16 "
Water	4 oz.

No. 2.	
Potassium hydrate	128 gr.
Water	4 oz.

To develop a quarter-plate, take 1 drm. of each solution and add water to 12 drms. This will develop three or four plates in succession, and gives splendid negatives with correct exposure.—**J. TULLY.**

4872. Hydroquinone.—You can use a one-solution as follows:

Hydroquinone	90 gr.
Sodium sulphite	2 oz.
Carbonate of soda	2 "
Distilled water, to make ..	10 "
Eosin	1 gr.

If you prefer two solutions, dissolve the carbonate of soda in half the water and the other ingredients in the remainder. When required for use, dilute one part of above with four parts of water. For over-exposure use old developer; for under-exposure, new; and for normal, half old and half new.—**PEN.**

4872. Hydroquinone.—The following are concentrated solutions of hydroquinone and carbonate of soda:

No. 1.	
Water	4 oz.
Sulphite of soda	4 "
Hydroquinone	1 "

Dissolve the sulphite in the water and acidify with bisulphite of soda; then add the hydroquinone. Keep for twenty-four hours before use:

No. 2.	
Water	4 oz.
Soda carbonate	1 "

For use take:

Water	40 oz.
No. 1	1 "
No. 2	1 "

The carbonate of soda is much easier to weigh than hydrate of soda and is less liable to frill.—**CARBONATE.**

4873. Instantaneous Shutter.—I should recommend the Thornton-Pickard instantaneous only, as the best value for the money.—**PEN.**

4873. Instantaneous Shutter.—There are plenty of cheap drop shutters on the market. The following are a few: Vever's cheap drop—C. C. Vever's, 12, Market Street, Briggate, Leeds; speed, 1/100 sec.; price 2s. 6d., with 1½ in. aperture. Adams and Co.'s Rebound—Adams and Co., 26, Charing Cross Road, W.C.—price, half-plate, 2s. Fallowfield's drop—J. Fallowfield, 146, Charing Cross Road, W.—price, up to half-plate, 4s. Any of these would do for ordinary instantaneous work, and "L. R." could have them fitted to his lens by the makers.—**CARBONATE.**

4874. Westminster Abbey.—I have taken a good many interiors of churches, and find that using about f/32 and giving from twenty minutes to half an hour insures a good plate. It is not necessary to back your plates unless you have to take a window into your subject. I should certainly not use them for sculptures.—**PEPO.**

4874. Westminster Abbey.—You must either use backed plates, ground-glass plates, thickly-coated plates, films, or paper. The best backing is an alcoholic solution, obtainable from most dealers, applied with brush before exposure to the plate, and removed just before development with a damp sponge. It would be as well to use backed plates for monuments if there is a window anywhere near. Be sure and level your camera correctly. You must have a short-focus rectilinear lens.—**PEN.**

4875. Antwerp, Brussels.—I can strongly recommend hotel as under: Monsieur Van Hoydouck, Hotel à l'Aigle Noir, Place du Peuple, Antwerp. Terms equivalent to about 5s. per day. I do not know about dark-room. This hotel is quite opposite where the boats of the General Steam Navigation Company land their passengers.—**ESPANA.**

EDITORIAL.

SPECIAL NOTICE.—We are very pleased to find that replies in this column are so much appreciated, but we should be very grateful if those requiring advice would send their letters to us BEFORE TUESDAY MORNING'S post if possible. The time occupied in replying in this column is very considerable, and owing to the often late receipt of letters, many matters have to be left over each week. This we much regret.—**ED: AM: PHOT:**

CAPT. J. S. HENDERSON.—The following answers another of your questions: Plates are less likely to frill with pyro and ammonia than with any other alkaline developer. Use the developer according to the formula given with Thomas's plates. Frilling is probably due to excessive heat. Suggest alum bath before hypo.

ELCHO.—We have returned your print. What we intended to imply was this, that the racking out of the camera reduced the ratio between the diaphragm aperture and the focal (equivalent) length of lens.

Thus we will assume that your lens is of 8 in. focus, the ratio aperture $f/10$; by racking the lens out, which is necessary when a near object is focussed, the focal length becomes 10 in., but the diaphragm aperture remains the same; therefore the ratio aperture is reduced from $f/10$ to $f/12$ approximately, actually $f/11.75$, and with reduced ratio aperture there is always increase of marginal definition and depth of focus; there is, of course, however, a limit in this respect. If not quite clear we will write you privately.

K&R.—We know of no firm, but believe there are those who sometimes advertise to sell cameras, etc., on the hire system. Try Sands and Hunter.

A. C. E.—In neither case do we require the negative, but a print from the original negative must be attached, or accompany the enlargement.

B. F. HALFORD.—(1) We believe the following is identical, but of course we cannot guarantee it:—

(1) Hydroquinone	...	...	120 gts.
Sodium sulphite	...	...	480 "
Sulphurous acid	...	...	60 drops
Distilled water to...	...	...	8 ozs.
(2) Carbonate of soda	...	...	960 gts.
Caustic potash	...	...	120 "
Distilled water to...	...	...	8 ozs.

Mix in equal parts, and dilute with twice the quantity of water. (2) This is a question about which there is a good deal of doubt. In large excess, detail is undoubtedly destroyed, we think; when there is not much excess, the duration of development is prolonged.

J. T. H.—Your arrangement for enlarging would be, we think, quite safe; but you will not get any sunlight from W. by N. You mean, we suppose, diffused daylight. Sunlight requires a heliostat.

HIBERNICUS.—(1) You should have printed a little deeper. (2) Better. (3) You ought to have used a rapid plate or exposed longer, so as to break down the painfully hard white dress. (4) Better tones can be had on this paper than this print. (5) Shifted in printing, and negative a great deal too hard. (6) A good thing spoilt; this is the fault of your developer. Your foreground, which might well be reduced in quantity, is not snow but white paper. You ought to be able to get a good print of this on rapid bromide paper, exposing with a match and holding it over the foreground. (7) Spoilt by the fence. (8) A difficult-to-get-at church, but wonderfully pretty. We know it well; it can only be done from the private grounds of the mill, the camera being about the right-hand corner of your print. (9) Capital; wants a little deeper printing. (10) Good. (11) Over-exposed. Your work is good, and shows very fair promise, and it would do you no harm to enter a competition. We see far worse sometimes. Your negatives rather tend to hardness, but this is solely due to the developer.

H. M. S.—You are not alone in failing to get density. Add a little bromide and more hydroquinone to the developer when all the details are out, and continue development till the plate is black all over. Try the following:—

Pyro	...	...	1 oz.
Acid sulphite of soda solution	...	...	1 "
Distilled water	...	...	to 91 "

Mix the acid sulphite and water, and pour on pyro. This is a 10 per cent. solution.

A BEGINNER.—The marks on your lens tube mean that when the arrow points to 10 the ratio aperture of diaphragm is $f/10$; when at 20, $f/20$, and so on. The relative times of exposure are as 1, 2, 4, 8, and 16, but the one may be either $\frac{1}{2}$, 1 sec., or 1 hour; then the relative time with the other apertures will be 2, 4, 8, and 16 times that necessary with 1.

H. H. COBB.—The usual plan is to drop two or three good-sized lumps of ice into the cup, when the cold produced will cause the outside to dew with condensed aqueous vapour, and give it a frosted appearance and destroy all reflections. If ice is not handy, take a piece of putty or dough, and dab the cup all over, leaving the slight traces this produced. This also does away with reflections.

J. W. MURRAY.—(1) Good. (2) Ditto, but would have been improved by a figure or a cow on the left. (3) Poor. There is not sufficient in this; it is merely a photograph of a hedge. (4) Poor. The left-hand background has got a picture in it, but you certainly have missed making one. We have not published a table of relative rapidities of plates, but one will be included in "Photographic Procedure." We have not, so far as we are aware, published a "Holiday Resort" article on Brighton, which, speaking from personal recollections, is singularly devoid of interest except the beach, though the surrounding parts hold some charming bits.

T. F. BELL.—We shall have a note on "Halation" next week, but at the same time we do not think your paper will entirely obviate it, though it will help you.

M. MCGINN.—(1) The silver is deposited in an allotropic white form, which gives this appearance. (2) We do not quite understand what you mean by the prints looking dry and coarse; send us up one or two. (3) Use eucastic paste, made as follows:—

White wax	...	...	500 gr.
Gum elemi	...	...	10 "
Benzole	...	...	4 drms.
Essence of lavender	...	...	6 "
Oil of spike	...	...	1 "

Melt the wax and elemi, add the benzole and other ingredients, and allow to cool, stirring frequently. Smear

a little of the paste over the print, and polish with a little pad of linen till no markings show. If you read our advertisement pages you would see that John Piggott advertises a burnisher at 13s. 6d., Sutcliffe at 11s. 6d., Vevers at 12s. 6d. (4) See answer to 3. (5) There is no definite strength for a saturated solution of hypo, as it varies with the temperature; but about 1 oz. to 3 oz. of water for negatives, and 1 oz. to 5 oz. of water for prints. (6) Add $\frac{1}{2}$ gr. of chloride of gold, neutralised with chalk, one hour before toning again. (7) Walker, 22, Charles Street; Appleton and Co., 58, Manningsham Lane; Riley, Bros., 5, Cheapside; W. T. Townsend, 1, Heidelberg Road, Manningham.

MUTE.—The formula on page 252 is a stock solution, every ounce of which must be diluted with half a pint of water for toning.

ARTHUR CLARKE.—Both portraits are well lighted, exposed, and developed. The elder child is rather the better.

ANXIOUS.—(1) The distances between your lamp and condensers is wrong; put them nearer together and adjust them till you get a clear circle. (2) It is handicapping yourself to use medium rapidity plates. You would find Paget's xxxxx all you want; try them, at any rate.

A. RUSSELL.—We can pass no opinion without examining lens; we will do this for you if you send the lens up.

H. B. G. NEWHAM.—Seventy-five minutes is quite long enough, provided you do not wash more than twice at a time, which is a safe limit.

A. PADDIE.—(1) "Holiwell Dene," utterly spoilt by the incongruous figure. (2) The "Helping Hand;" this is better; it would be improved by cutting off half an inch of foreground.

RACHDA.—Letter by post.

VULCAN.—Many thanks for prints. (1) Matt-surface gelatino-chloride paper, either Obernetter or Celero-type, white, not tinted; or else Kallitype. (2) You are welcome to any competition prints not engaged, fee 1s. Examination of a set of prints with the *Reporter* would be of great assistance. Always pleased to help you.

F. PARTRIDGE.—You want two sheets of stout zinc or iron plate. Place the tray between and clamp in a vice; place in an oven, and when soft screw up flat and allow to cool. It is very questionable whether the game is worth the candle.

EXPOSURE.—A plate of 25 deg. W. is seven times more sensitive than one of 18 deg. W., therefore the exposure for the latter will be two-sevenths of a second.

F. W. WALTER.—You must recognise that the tone of prints depends enormously on the negative. Send us up three of your negatives, and we will print from them, and send you results and notes on same.

A. G. NGUS.—We will presume your horses are going at 20 miles per hour, then they will move 29 ft. per second, then

$$30 \text{ yards} = 1,080 \text{ in.} \div (12 \times 100) = \frac{1,080}{1,200}$$

$$348 \text{ in. speed of object per sec.} \div \frac{1,080}{1,200} = 380$$

your shutter must work at $\frac{1}{380}$ of a second. If the speed of horses is too great, you have merely to substitute known speed for our hypothetical speed. (1) The child's expression is unsatisfactory. Yours' old have placed her in the shade; otherwise it is good. (2) Your angle should have been watching his float, and had you tied something heavy on to the line so as to make him pull at it, it would have been better. Printing and toning good. (3) Looks as though it had shifted in printing, otherwise good. (4) Good. Keep your prints in fixing bath till red disappears. Prints returned. Always pleased to help you.

N. HINCHWOOD.—(1) Good; well exposed, printed, and toned, and a well-selected panorama. (2) Ditto. (3) Under-exposed for foreground; still, very good. (4) Fine. (5) The trap spoils it. Had you had a pair of lovers it would have been perfect, and the lady should not have been in a line with tree. (6) Good. (7) Flat, over-exposed. (8) Entirely spoilt by the figure in the centre of picture. (9) Printed a little too deep, otherwise good; mealy mark due to insufficient washing prior to toning. (10) Good in all respects. (11) Ditto. (12) Ditto. (13) Ditto. (14) Ditto. (15) Ditto. If you print the last five under tissue paper in a weak diffused light, and print deeper, you will get better results. You turn out very good work on the whole, and you ought to enter for our competitions.

Sale and Exchange.

RULES.

CHARGE.—Twelve words or less for Fourpence.

Every additional three words, one penny. The name and address of the sender must be paid for. (A single figure, or group of figures undivided by letter, space, stop, or words, counts as one word; compound words count as two words.)

PAYMENTS should be made in Postal Orders or Postage Stamps.

ADDRESS.—All advertisements (which can be received up to Wednesday morning, 9.0 a.m.) and other communications having reference to the "Sale and Exchange" column, must be addressed "Sale and

Exchange, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C."

DEPOSITS.—The money for goods forwarded on approval may be deposited with the Publishers of the AMATEUR PHOTOGRAPHER, who will hold the amounts deposited until they are satisfied that the transaction has been completed to the satisfaction of buyer and seller.

COMMISSION.—A charge of 2½ per cent. will be deducted from all deposits whether a sale is effected or not.

PAYMENT.—All payments are to be by cheques or Postal Orders, made payable to Hazell, Watson, and Viney, Ltd., 1, Creed Lane, London, E.C.

REPORTING.—Apparatus may be sent to the Editor, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C., who will report upon the apparatus to the buyer for a minimum fee of 2s. 6d., or a commission of 2½ per cent., upon the sale price of the apparatus.

CARRIAGE must be paid on all apparatus sent for report, and they will be returned carriage forward.

ADVERTISEMENTS can be inserted under a number, the name and address being registered, and letters forwarded for a fee of 3d. to cover postage.

Backgrounds.—Backgrounds, one interior, one exterior; sell cheap.—Ready, 40, Langton Road, Brixton, London.

A mounted Scholzig background, slightly soiled, cost 13s. 6d.; Godstone washer, cost 6s. 9d.; cash offers.—Sunford, Blandford Lodge, Streatham.

Cameras, etc.—12 by 10 Park's camera, Kinnear form, three double dark-slides, very good condition; £10.—Johnson, 5, Mainhead View, Exmouth.

Half-plate camera and three double slides; 40s.—Carsberg, 8, Meredith Street, Clerkenwell. Before 8 o'clock.

Meagher's 7½ by 5 camera, four slides, perfect condition, folding stand, complete; £5 5s.—Cooper, 26, Manchester Street, Oldham.

Stirn's large-size Secret camera (size for lantern pictures), cost 35s., what offers? Cabinet burnisher, good condition, 20s.; Rooke's 20 in. Simplex print-washer, never used, cost 20s., for 16s. 6d.; Lancaster's quarter-plate Le Meritio camera, two backs, case, and stand, cost £2 2s., for 35s., as new.—Brothhead, 1, Regent Street, Clifton.

12 by 10 mahogany Trunk camera, very old-fashioned, but condition as new, double slide, extra front, with brass lens mount, but no lens, all folds flat, in strong partitioned box, cost large sum, price 35s. net; also old half-plate square long bellows copying camera, three double slides and one single carriers, price 28s. net; also quarter-plate mahogany box camera and slide, 8s. 6d.—James Melville, jun., 7, Clyde Street, Edinburgh.

Light whole-plate camera, three backs, long-focus, all movements; price £5; nearly new; no post-cards.—A. X. L., 83, Grosvenor Street, London.

Cameras, Lenses, etc.—Whole-plate Underwood's Convention camera, with tripod and camera case, with-out lens, £3 15s.; 7 by 5 rapid rectilinear lens, £1 8s.—W., 30, Nutfield Road, East Dulwich, London.

Good-class apparatus for sale, whole-plate camera, lenses, burnisher, etc.; list sent; letters only.—Hunter, 37, Elizabeth Street, Eaton Square.

Morley's Universal half-plate camera, three backs, solid leather case, as new, £6 10s.; Ashford's tripod, 8 in., 14s.; Marion's miniature camera, lens, and back, 3½ by 2½, 14s.; Ross' R.S. 8 by 5, £3 5s.; Ross' W.A., 8 by 4½, 40s.—V. Field, 81, Osulston Street, N.W.

Hand-Cameras, etc.—Shew's Eclipse quarter-plate hand-camera, with double back, finder, and fitted roller-holder, as good as new; cost over £7; price £5.—H. Tudor, 80, Ararat, Richmond.

Lancaster's Omnigraph hand-camera, leather-covered, in good condition; price 20s.; specimen prints sent.—Johnston, Elmwood, Underhill Road, Forest Hill, London.

Quarter-plate Lunzo, holds 50 films, lightest and best hand-camera; cost £7 15s.; price £6 6s., with 30 exposures.—Miss Payne Galloway, Thirkley Park, Thirsk.

No 1 Kodak, perfect condition; price 45s.—Roe kaerts, 115, Shirlind Road, Westbourne Park.

Facile, H.R. lens, 1891 pattern, never used; £4.—Palmer, 4, Fernbank Terrace, Folkestone.

Quarter leather-bound camera case (Lancaster's), quite new, Presto hand-camera, never used; exchange for half-plate frames, dishes, or anything half-plate size.—Welch, Widemarsh, Hereford.

Griffiths' Guinea detective hand-camera, three dark-slides, complete, quite new; price 15s.; sent free.—Lennard, 29, Clarence Street, Marsh Lane, Preston, Lancashire.

For sale, a bargain, Stereoscopic hand-camera, built to special order at a cost of considerably over £30, fitted with a pair of Dallmeyer's patent stereograph lenses, capable of working at $f/4$, Wollaston's patent diaphragmatic shutter, with revolving stops, facilities for using lenses as single (landscape) combinations, six double backs, with vulcanite slides, etc.; price £15 cash; may be seen by appointment.—Address, E. R. Shipton, 140, Fleet Street, E.C.

Talmer improved hand-camera, nearly new, splendid instrument, £2 10s.; quarter-plate Lancaster's Instantograph; one mahogany, six Tylar's slides, £2.—Fredk. Storey, Trinity Lane, North Shields.

The AMATEUR PHOTOGRAPHER

Telephone No. 1645
Telegraphic Address: VINEY, LONDON
Office: 1, Creed Lane, Ludgate Hill, London, E.C.

No. 356. VOL. XIV.]

FRIDAY, JULY 31, 1891.

[PRICE TWOPENCE.]

OUR VIEWS.

"To hold as 'twere the mirror up to nature."—Shakespeare.

The Monday afternoon "At Home" is discontinued for the present, but will be resumed on Monday, the 7th of September.

OUR VIEWS.—Photographs taken at Sunrise and Sunset in New Zealand—Customs Charges—Photographs and the Awards at Exhibitions, Objections to "sets of four"—Photography at the British Association—The Manchester Amateur Photographic Society—The Preston Camera Club—Enterprise in the Photographic Trade; Ideas suggested in the AMATEUR PHOTOGRAPHER eagerly taken up—Awards at Derby—*Funny Folks* and the Automatic Machines—The Glasgow Exhibition—Interesting Demonstration at Liverpool—Our Editorial Work.

LEADER.—Halation.

LETTERS TO THE EDITOR.—Photographing at Sunrise and Sunset (Raw Amateur)—Amateur Photographers and their Holidays (Amateur)—Competition Rules (Puzzled)—Custom House Charges (Etheldred Dillon)—A Suggestion (Centurion)—A Word of Thanks (Shapoor N. Bhedwar)—Glasgow Exhibition (W. Goodwin).

ARTICLES.—Photographic Procedure (Wall), illustrated—Studies in Art for Photographers (Lambert)—Unsuspected Causes of Failure (Hethton Lewis)—With a Camera in America (Fretwell).

REVIEWS, APPARATUS, ETC.

HOLIDAY RESORTS AND PHOTOGRAPHIC HAUNTS.—North Wales (John A. Hodges), illustrated with Map of District.

SOCIETIES' MEETINGS.—Barrow-in-Furness—Bath—Birmingham—Faversham—Hackney—Holloway—Richmond—South London—Tunbridge Wells.

EDITORIAL DEPARTMENT.—All Literary Contributions, Queries and Answers, Photographs for competition or Criticism, Books or apparatus for Notice or Review are to be addressed to the EDITOR, AMATEUR PHOTOGRAPHER, 1, CREED LANE, LUDGATE HILL, LONDON, E.C. (All Communications should reach the Editor on Tuesday.)

TRADE ADVERTISEMENTS are received up to Tuesday morning.

TERMS OF SUBSCRIPTION—

UNITED KINGDOM.....	Six Months, 5s. 6d.....	Twelve Months, 10s. 10d.
POSTAL UNION	" " 6s. 6d.....	" " 13s. 0d.
OUT OF POSTAL UNION	" " 7s. 9d.....	" " 15s. 3d.

PUBLISHING DEPARTMENT.—All letters containing Subscriptions, Orders, Remittances, SALE AND EXCHANGE Advertisements, or other business matters for the AMATEUR PHOTOGRAPHER are to be addressed to the Publishers, HAZELL, WATSON, AND VINEY, LD., 1, CREED LANE, LUDGATE HILL, LONDON, E.C. (SALE AND EXCHANGE Advertisements, at the charge of Three Words for One Penny, can be received as late as WEDNESDAY MORNING.)

"Amateur Photographer" 1891 Lantern Slide Competition (Fourth Year).—Prizes: Gold, Silver, and Bronze Medals, and Certificates in each class. Competitors to enter only one class; every competitor to contribute ten slides, and a "lantern slide portrait" of him or her self.

CLASS I.—Landscape, Sea Pieces, and River Scenery, with or without figures.

CLASS II.—Portraiture and Figure Studies, to include in-door or out-door pictures.

CLASS III.—Architecture, Interior or Exterior.

CLASS IV.—The Fine Arts, which may include copies of Pictures, Engravings, Sculpture, Art Metal Work, China, Bric-a-Brac, etc.

NOTE.—Every Competitor must send descriptive Notes.

Past prize-winners will be awarded "Niece" or progressive medals, should they win a medal of the same value as that which they have been awarded in past Lantern Slide Competitions.

All slides must be received on or before the 30th September, 1891.

RULES, CONDITIONS, and ENTRY FORMS will be forwarded on receipt of stamped addressed envelope. The application should be endorsed, "LANTERN SLIDE COMPETITION," Editor, AMATEUR PHOTOGRAPHER, 1, CREED LANE, LONDON, E.C.

A CORRESPONDENT from Auckland, N.Z., has sent us a most charming collection of photographs taken at sunrise and sunset. In another column we publish a letter from him. We only regret that we cannot do justice to his pictures by any photographic method of reproduction that comes within the scope of this paper. But we hope to have all the prints mounted, and when finished will duly announce the fact and loan the album to those wishful to see the work done by an amateur in the antipodes.

A LADY correspondent calls attention to the exorbitant duty charged her by the Customs authorities upon some developer, etc., sent her from France. Some of our subscribers may be able to give some particulars of their experience under similar circumstances. Such an import duty is not encouraging for French photographic chemists and dealers to do business in this country.

THE custom that has obtained for some time at photographic exhibitions of giving medals to "sets of four" is proving highly objectionable to many exhibitors. With our own competitions we have for a long time made it a rule to award the prize, whenever possible, to one photograph; and it appears to us that, except in exceptional circumstances, it would be well that the same rule be followed at exhibitions. "Puzzled" states his case very succinctly, and we shall be glad to have the opinion of other exhibitors. The prospectuses of photographic exhibitions are framed to draw as many photographs as possible from the exhibitor, and with, we fear, the result that year by year the number of leading men who abstain from exhibiting at all is increased. The matter requires serious consideration; it is exceedingly difficult, in fact almost impossible, for the average exhibitor to show four pictures of equal merit, and so the "set of four" often necessitates the awarding a prize to a man who has perhaps only two good pictures in the set; and, on the other hand, as "Puzzled" says, the award prevents any of the four being shown.

AN interesting paper is to be read before the members of the British Association on "Photography in the Service of Geography," by Mr. J. Thompson. It will be remembered that the Association meet at Cardiff this year, and that the photographic exhibition opens the same week.

AT the last meeting of the members of the Manchester Amateur Photographic Society a very interesting paper

was read by Mr. George Wheeler, editor of the society's magazine, on "Foregrounds in Pictures," which was illustrated by drawings in crayons. The last number of the magazine is, as usual, full of readable matter, and contains several papers read before the society, including "Hand-camera Work," by J. W. Wade, a lecture, "To Ober-Ammergau and Back," by W. Lamond Howie, F.C.S., and a well-written resumé of the "Rambles" of the month.

WE have pleasure in noting that a society has been formed at Preston, the Preston Camera Club. Its object is, of course, to encourage and bring together those who are interested in photography. A preliminary committee has been formed, and a meeting will be called at an early date. The Hon. Secretaries, *pro tem.*, are Messrs. R. M. Worden, 14, St. Ignatius Square, and W. J. T. Jackson, 55, Fishergate, Preston. Either of these gentlemen will gladly give further information.

LOOKING through some back volumes of the AMATEUR PHOTOGRAPHER, we came across a letter signed J. H. B., suggesting that the term "detective camera" should be replaced by that of "hand-camera." How generally this suggestion was taken up our advertising columns bear witness. At that time, March, 1888, we are within the mark in saying that there were not a dozen detective cameras on the market, and now there are nearly one hundred hand-cameras to select from, every one possessing some special merit.

THE eagerness with which our columns are read by the trade, as well as by amateurs, has been prominently brought to our notice this week. In the last issue a letter was published describing a very simple "plumb level." Three firms have notified us that they have or intend to manufacture the article. One, Messrs. Talbot and Eamer, Blackburn, have the levels ready; another, Mr. W. Tylar, Birmingham, will have them ready in 14 days, and the third is getting out patterns. In the issue of the 17th inst., a correspondent in Ceylon suggested a special dark-room for army officers, and to-day we have the pleasure to publish a preliminary notice of a portable dark-room, devised by Messrs. Davenport and Co., which would appear by the description to be admirably adapted for the purposes required.

WE have received the list of awards made by the judges (Capt. Abney and Mr. W. England) for photographs exhibited at Derby, and note that in the amateur classes silver medals were taken by Messrs. Chas. Bourdin (Landscape) and W. Smedley (Genre); bronze medals, Dr. E. Collier Green (Landscape) and E. B. Wain (Genre).

"FUNNY FOLKS" of last week gives some very funny results (?) produced by the automatic photographic machines.

THE Glasgow International Photographic Exhibition will be inaugurated by a *conversazione*. We understand that between 1,500 and 2,000 invitations will be sent out.

LAST evening an interesting demonstration was to be given before the members of the Liverpool Amateur Photographic Association by Dr. Kenyon, on "Obernetter's Ferro-cupric Process," special attention being paid to the production of reddish-brown prints (Bartolozzi red), and a successful method of uranium toning for bromide of silver prints with the same object.

WE are sure it would interest readers to know how an average morning is spent in our editorial offices. We

will give a short note upon the work and callers of Tuesday last. Reached the office at 9.30 a.m.; about a hundred letters, on almost every conceivable subject connected with photography, and all, of course, independent of the publishing department, occupied until 10.30 a.m., giving instructions to assistant editors and arranging "copy" for printers. Callers commenced: (1) An editor of an important trade journal going abroad to inspect certain factories, starting next Tuesday; knows nothing of photography, required advice as to a first-class whole-plate kit, and instruction; is going to take photographs to illustrate a special number of his journal, and requires full instruction to take a first-class photograph. Suggest specifications of a kit, and send him to a competent instructor. (2) A well-known chemist and scientist, a wet-collodion man, who has recently come back to photography, consults us upon a set of exposure tables in a very useful handy form for the pocket, of which our readers will hear more later on. (3) Next visitor, an artist just starting on a sketching tour through Cornwall; had been told that a hand-camera would be of considerable assistance in securing figure studies, clouds, waves, etc., found that he was willing to spend £10 10s., advised him as to the best apparatus to buy. (4) Call from a Birmingham manufacturer to show us a new hand-camera; found it very useful, cheap, and well made; told that the makers were wholesale chemists; strongly recommended that they should pay more attention to the making up of developers in handy form, packed to travel by post. (5) Next a subscriber, upon his return from an extended tour on the Continent, promised to send us a photograph of the salt mines in Bohemia, to illustrate an article he is kindly preparing for "Holiday Resorts." (6) Representative of a firm of photo-mechanical printers, to show us how admirably they could turn out work and a very cheap mount. (7) Another subscriber, who came first to apologise for having sent us a photograph anonymously, without explanation, and which we committed to the flames; and secondly, to show us a snap-shot portrait of Mr. Corney Grain, excellently taken; and, thirdly, to do a general grumble about difficulties met with in the practice of photography. (8) An enthusiast in lantern work, on the eve of starting for Italy, had decided to take a hand-camera; money no particular object; recommended him the same camera as we did the artist—another good order—and "What about plates?" said our friend. "Take them with you, and give your order to the firm we have named, they will see them carefully packed and labelled." (9) Another well-known chemist and scientist who is actively at work preparing a surprise for the photographic world, and who called to consult us upon a technical point.

These callers were all attended to, and, we believe, perfectly satisfied, notwithstanding the interruption of boys wanting "copy," telephone messages from the printers, and sundry and manifold "whistles up" from the publisher.

WE have not selected any exceptional day, but have written the foregoing in order to give some idea of what we get through in the course of a morning when at Creed Lane.

Dark-rooms.—*Inverness*: Mr. W. J. Bethune, of 99, Academy Street, writes that he has a dark-room for changing plates, etc., and keeps a stock of photographic material, plates etc. *Criccieth*, North Wales: A correspondent writes, "I find that Mr. E. W. Thomas, of Castle Street, Criccieth, has a dark-room which he is willing to allow amateurs the use of for a small charge." *Ilfracombe*: Mr. Catford, of 3 and 4, High Street, has, we understand, opened a commodious dark-room for amateurs, and a store where plates, etc., may be purchased. The charges are, says a correspondent, moderate, the place clean and convenient, and Mr. Catford and his assistants ready, willing, and able to give information and advice.

HALATION.

THE effects of halation are probably as well known to practical workers as almost any defect to which a dry plate is subject, and if we may judge from the number of prints

principles, which are complied with no matter whether the sensitive salt of silver be present or not. But if the sensitive film be there, then the effect of the optical law is fixed and rendered apparent on development. Halation is

"AMATEUR PHOTOGRAPHER" COMPETITION PICTURES.



A CLOVELLY COTTAGE.

BY EDWARD BRIGHTMAN.

which pass through our hands which show this defect, there are few landscape negatives free from it.

When we come to consider more closely this defect, its causes and remedies, we find that certainly the cause is well established and is by no means confined to photographic dry plates, but is dependent upon certain well-defined optical

caused by the reflection of the light passing through the film, which is scattered by the light, and is reflected from the back surface of the plate.

A natural thought which occurs at once is, why do we not always see halation? For the effect of halation to be visible on the negative, it is necessary that a brilliantly lit

object should be contiguous to a dark portion, or *vice versa*. The first case is met with in practice when photographing a dark church interior in which is included a brilliantly lighted window. The second case is exemplified in the case of tree branches, weather-cocks, and even chimneys projected against a bright sky, which are too often lost or show less distinctly.

From the above statement of the cause of halation it is obvious that we must have, first, a substance which will scatter or diffuse the light, and, secondly, an appreciable transparency of that substance, which shall allow the light thus diffused to penetrate to the glass plate. This naturally leads us to the conclusion that if the sensitive film were absolutely transparent or else absolutely opaque, we should get no halation, because the light would pass through unobstructed, or be prevented altogether from passing through.

We now come to consider the remedies. Some undoubtedly lie in the hands of the makers of plates. Thicker films or films of greater opacity will partially obviate this defect, and in a series of experiments carried out by us lately we have found that commercial plates differ considerably in this respect, and that of two brands issued by one maker, the one showed marked halation, whilst the other was comparatively free from it. M. Cornu has proved that the diameter of a halo, or the extent of halation, is practically a little less than four times the thickness of the glass plate; therefore the thinner the support the less the halation, and this is the explanation why films show less of this defect than glass plates. If we cannot obtain a film which is absolutely opaque, the natural sequence of thought is, cannot we so stain the film that the light which passes through it shall, if reflected, be of such a colour as to be harmless or non-actinic as regards the sensitive salt? This has been suggested by the editor of our contemporary, the *British Journal of Photography*, and the plan seems perfectly feasible. It has even been claimed as an advantage of the isochromatic or colour-sensitive plate, that, being stained by the dye, it is less liable to show halation, for this very reason; but for this claim to be upheld it is obvious that the dye which is used to stain the film must be of such a character as to absorb those rays which are specially active, and the rays which are absorbed by eosine and similar dyes are not, however, those that are specially actinic to the sensitive salt. Therefore, on theoretical grounds this claim cannot be upheld, nor can it practically. It is probable that the application of ammonium picrate would be of assistance in this respect, but the disadvantage of staining a film is that we are liable to introduce an element of fog, or else to so lower the sensitiveness as to make the plate very slow. This plan, therefore, is not practical.

The remedies hitherto suggested have been, as our readers are aware, the application of some substance to the back of the plate of such a nature as to absorb, or at least render inactive, the rays of light passing through, and the various expedients suggested have been a mixture of gelatine and some colouring matter like burnt sienna, or non-actinic paper made sticky with glycerine, etc. Both remedies are of considerable benefit, as may be proved by anybody who will coat a plate with one of these remedies and then wipe a band of an inch clean again, and expose on a subject arranged so as to give halation, when the effect of the backing will be plainly seen. Collodion stained with chrysoidine and other dyes has been recommended, but few amateurs, we venture to think, could successfully coat the back of a dry-plate with collodion in the dim light of a dark-room. Mr. W. E. Debenham has recommended caramel or burnt sugar for the same purpose.

The above remarks have been made for the purpose of

introducing the result of some researches by M. Cornu, and which are reported in the last number of the *Paris Photographie*; the writer there points out that it is an optical law "that the reflection from the surface of two media is always produced when there exists a difference between the indices of refraction of the two media. It is necessary then to apply to the back of the sensitive plate a liquid or varnish having the same index of refraction as the glass, to destroy the reflection from the surface of the glass; but this is not sufficient, for there still remains the reflection from the interior surface of the varnish; happily, this is easy to remedy by colouring this varnish in such a manner as to absorb the rays which it receives."

The mixture which M. Cornu recommends is about six parts of oil of cloves and one part of oil of turpentine. Anybody can easily determine whether the mixture is of the same index of refraction as the glass used for supporting the sensitive film, by placing a small strip of the glass in the liquid, when it will be almost invisible. This mixture is then formed into a paste with lamp black, and applied to the back of a plate with a brush or pad of cotton wool. It must be, of course, wiped off before placing the plate in the developer. The only objection to this procedure is, first the cost, secondly the smell, and thirdly the messiness, but it does away entirely with halation.

Many operators consider that backing a plate is a lot of bother, and the game never worth the candle, but probably many a foggy plate may be caused by a sort of general halation, that is to say, by a general reflection from the back of the plate, and the earnest worker will welcome any means which, though a little trouble, will enable him to turn out better work. We would add that there are few prints which would not have been better for backing the plate.

Letters to the Editor.

PHOTOGRAPHING AT SUNRISE AND SUNSET.

SIR,—I am the happy possessor of a residence in the far-off antipodes fronting a beautiful sheet of water, and so situated that from the campanile windows I can see the sun rise and can follow its course until it sets, one long uninterrupted view. I took to the camera a couple of years ago, but do not pretend that my amateur efforts have been very successful; however, I have been much surprised to find that I have been able to present to my friends, not only here but in the mother country, photographs such as they have never seen before—I allude to sunrise and sunset pictures. I am one of those unfortunates who cannot sleep after daylight has well broken, and as I hate lying in bed after I have fairly awoke I am always up and dressed before the sun is over the horizon. This being the case, it was natural, having the sun staring me in the face, that I should pay him the compliment of endeavouring to take his likeness, not only *in puris naturalibus*, but also clothed in his many-clouded garments. I fortunately set at naught the standing injunction that pictures were not to be procured, the camera in full front of the sun—*experientia docet*, and I place before you the result of my attempts to photograph the sun itself, in accompanying pictures of sunrises, sunsets, and cloud effects. A professional photographer would no doubt have made really perfect pictures of what I have only succeeded in making crude attempts. I must tell you, however, that the sun must not be more than five to ten minutes over the horizon, or the result will only be a white blur, unless a thin cloud, or mist, intervenes. I don't know what it may be at home, but I do know what it is in our bright, clear atmosphere here. The photographs I send are all taken from negatives in their virgin state, not touched up or manipulated in any way whatever.

I have already stated that the friends to whom I have sent my sunrise pictures have all stated they have never seen any like them before, which makes me wonder can I be the only camera man who gets up before the sun? In a letter just received from

a friend at home—who when here lately, making “le tour du monde en quatre-vingt jours,” carried away with him a selection of my spécialité—I quote the following: “I have your photos nicely arranged, occupying two sheets of a very large album, so they can all be seen together, and I assure you they are very much admired. Three artists in particular thought them exquisite, . . . and were most enthusiastic, but two of these regretted you had not named them—whether sunrises, or sunsets, or any other description.”

I should be very glad if you could give me any practical hints, enabling me to produce more perfect work than what I send you, and which, I fear, you will only pronounce as that of a

Auckland, N.Z.

RAW AMATEUR.

* * * *

AMATEUR PHOTOGRAPHERS AND THEIR HOLIDAYS.

SIR,—It has struck me that your admirable system of providing your readers with information as to Dark-rooms available for their use in holiday and other places, might be usefully extended in another direction.

I am, at present, spending a few weeks in this place, and should have been very glad of an introduction to a brother amateur photographer with whom I might exchange notes as to the scenery in the neighbourhood, and, if so desired, arrange for excursions together.

I would suggest that amateur photographers who, like myself, would be glad to have a companion with a camera, or who desire to “have a chat” with another holiday-maker upon photographic matters, should send to you their names and addresses, with particulars of places to be visited, and dates of proposed arrival and departure.

If you can see your way to keep such a register, and, for a small fee, give the necessary introductions, I fancy you would in time have plenty of applications.

If the system should be found to answer, it might be still further extended by local registers being kept by the owners of dark-rooms, or indeed by any dealer in photographic goods, in which the names and addresses of visitors could be inserted either by being forwarded from your office or by visitors themselves on arrival.

If the idea is worth consideration, please insert this letter; if not, kindly consign it to the waste-paper basket.—Yours truly,
Cromer, July 27th, 1891.

AMATEUR.

* * * *

COMPETITION RULES.

SIR,—There is a little matter in regard to competitions which appears to require settling by some competent authority. At an exhibition last year I was awarded a first medal for a “set of four.” Now I want one of this set to make up another set of four for competition at Glasgow and Leeds, at which exhibitions pictures that have previously gained first awards will not be eligible for competition except in the Champion Classes. Now, this picture having been one of four, I want to ask, has it been awarded the whole of a medal or only a quarter of one? This seems a simple question, but is one, I think, that will require a considerable amount of cogitation. As it affects Glasgow and Leeds chiefly at present, the opinion of the managers of these exhibitions would be greatly esteemed by, yours truly,

PUZZLED.

* * * *

CUSTOM HOUSE CHARGES.

SIR,—I wrote to Paris to the Magasins du Louvre for six bottles of Cristallo developer and six boxes of Lumiere plates (enclosing payment). The goods were duly sent, carriage paid, but on the bill appeared a charge of 16s. 9d. duty. I enquired of an inspector of foreign photographic goods, and was told that there was no duty existing. I therefore sent the sum, £2 10s., minus the 16s. 9d. duty, to Messrs. Young and Burt, and have received a letter from them claiming 16s. 9d. as duty on the developer. The charge on the account, I note, is 21 fr. 60 c. It is simply an impossible charge, and I shall be glad to know who has the right to make it. One of the bottles was opened, marked “opened by the officers of Customs to ascertain the actual quantity contained in it, in order to assess the duty chargeable.” I shall not pay the duty till I am obliged to do so, as it is on a par with the proceedings of a Turkish custom house.—I am, etc.,

ETHELRED DILLON.

A SUGGESTION.

SIR,—I should like to make a suggestion for the benefit of those who practice photography in distant lands. It is very annoying to find parts of one's gear, which perhaps has only just been received from home, and whose arrival was awaited with so much impatience, after some time eaten and sometimes wholly destroyed by the various voracious animals which infest the tropics. This occurred to me with the blind of my Thornton-Pickard shutter, which I only received about three months ago. I wanted to use it one day, and to my horror I found it perforated in about twenty places with little holes about the size of a pin's head. This was done by a small red ant, which also has a playful way of giving human beings a very nasty nip. I stopped up the holes with black sticking plaster, but, of course, in a damp climate like Colombo there is the off chance of it coming off just at the very moment it is most inconvenient. Could not all leather, except Russian leather, which they don't like, the blinds of shutters, and, in fact, everything edible, be steeped in some preparation which might, I am inhuman enough to say, kill these pests outright, or, at any rate, prevent them touching it? India-rubber is an article which, though the animals do not attack, deteriorates very much in a damp climate; something might also be done for this. I found my camera case was attacked the other day, so I soused it with kerosene oil, and have not been troubled since. Of course, this is not necessary in old England, but photography is not unknown in other parts of the world, and it is for these amateurs my suggestion is made.—Yours, etc.,
Colombo, Ceylon, July 5th, 1891.

CENTURION.

* * * *

A WORD OF THANKS.

SIR,—Being about to leave England and turn my steps once again to my native land, I wish to express to you and your contemporaries my gratitude for so many kindnesses and indulgent criticism of the photographic press. I also owe a debt of gratitude, which I find it difficult to find words to convey, to those gentlemen who by untiring interest in my instruction, have done everything possible for the accomplishment of my object in coming to England, as the fountain-head of photographic knowledge, to obtain from the best masters of the art a thorough photographic education.—Yours, etc., SHAPOOR N. BHEDWAR.

July 22nd, 1891

* * * *

GLASGOW INTERNATIONAL PHOTOGRAPHIC EXHIBITION.

SIR,—The special judges in the photo-mechanical section will be Mr. Robert Blackie (of Messrs. Blackie and Son, Ltd.) and Mr. W. B. Blaikie (of Messrs. T. and A. Constable).

We have been very fortunate in securing the services of these gentlemen, who in their connection with these large publishing firms have acquired a very thorough knowledge of photo-mechanical methods of illustration. Mr. Blackie is also widely known as a highly competent art critic.

There is every indication that this section will be both large and interesting.—Yours, etc.

Glasgow, July 28th, 1891.

WM. GOODWIN
(Hon. Sec.)



Messrs. Morley and Cooper, 70, Upper Street, London, N., have sent us their new catalogue, which contains a very complete list of the goods manufactured and sold by them. Cameras are a speciality, and very excellent instruments are supplied, particularly we would mention the “Light Model,” “The Fairy,” and “The Universal.” Almost every article necessary, either for the amateur or professional photographer, is kept in stock, and a visit to their extensive premises may profitably be made. In addition to an excellent stock of new goods, Messrs. Morley and Cooper have perhaps the largest stock of second-hand lenses, by first-class makers, of any house in London, and the reputation of the firm is a guarantee that they are all genuine.

Messrs. Talbot and Eamer (Blackburn) have sent us one or two excellent specimens of work done with their “Talmer” camera, single lens (£3 10s.) This very enterprising firm also write us:—“We notice a description of a new plumb level in this week's AMATEUR PHOTOGRAPHER. We have made a few up as samples, and find they are an efficient contrivance. We shall be pleased to supply same to any of your readers at 1s. 3d. each.” In last week's issue Mr. Wall inadvertently omitted, in using a block of Messrs. Talbot and Eamer to illustrate a type of “dark slides,” to mention their name. This firm has earned a world-wide reputation for the good quality and cheapness of their dark slides, and we gladly call attention to the fact in these columns.

Photographic Procedure.

By E. J. WALL,

Author of the "Dictionary of Photography."

SECTION I.

THE CAMERA AND ITS APPURTENANCES.

(Continued from page 64.)

Finder.—This little adjunct is one of the essentials for successful results in instantaneous photography, and practically it is an arrangement by means of which a

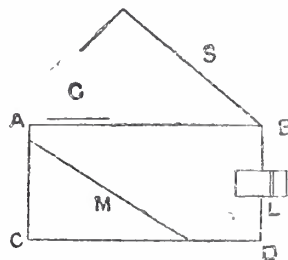


FIG. 23.

reduced image of a view or moving object can be watched, and when in the centre of the field of view, and consequently of the plate, the exposure can be made. There are one or two different forms, the principle of one kind being shown in fig. 23.

This is practically a small camera, the image formed by the lens being reflected on to the ground-glass, as seen also in fig. 24, by the mirror placed behind it at an angle of 45 deg. Another form is seen in fig. 25, which is merely a small camera, the image being inverted on the ground-glass, as usual with the big camera. Fig. 26 shows another form in which a concave lens is used, a small vertical and upright image being seen in the rectangular opening, which may be shifted to the horizontal position in the Taylor finder by means of the projecting knob at the side. Another form of this finder is a rectangular double concave lens, mounted in a brass socket, which lens should have the same focus as the objective of the camera. Another form of finder is that of a single lens of the same focus as that used for the

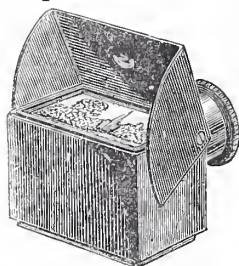


FIG. 24.

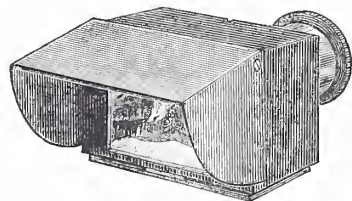


FIG. 25.

camera proper, which is fitted on the top of the camera, and is connected by wires with the focussing screen, which is turned up, over all being thrown the focussing cloth, thus forming a second and skeleton camera.

A finder which the author has used with great success is on a slightly different plan to the above, and although the idea was thought out quite independently by the writer, it seems to be by no means new. The finder consists of a double concave lens, with a mirror at an angle of 45 deg. behind it; an inverted image is seen, and can be seen as well in a brilliant light as in a dull one, thus obviating the fault of many of the above camera-obscure models, which require shading in a bright light, or else the image on the ground-glass



FIG. 26.

cannot be seen. It would also be possible to use a solid glass prism as used in reversing pictures, or an arrangement founded on Wollaston's camera lucida. A simple finder is made by turning up the focussing screen on to the top of the camera, and drawing on it three lines, as shown in fig. 27. When using this, the eye is placed at A, and looking along A B will give us the centre of the plate, whilst C A D is the angle included by the lens or the amount of subject included on the plate.

Combined finders and focussing glasses have been introduced, which can be used in either capacity by

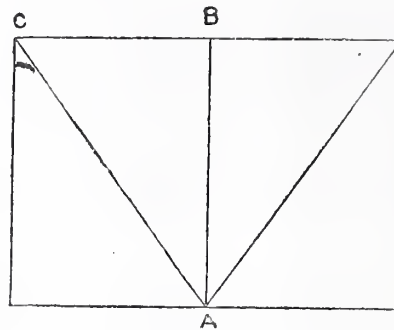


FIG. 27.

slipping on or off a cap of ground-glass.

It is important that the angle of view or amount of subject included in the finder should exactly coincide with that included by the objective, and the method of

ascertaining and effecting this is described under View Meter, *q. v.*

Focussing Cloth.—The chief purpose of the focussing cloth is to prevent the access of bright light to the ground glass or focussing screen, so as to enable the operator to see clearly and distinctly the image projected by the lens. It also serves as a screen from stray actinic light to any weak part of the camera, its joints and fittings, thus reducing the chance of light fog.

The material of which the focussing cloth can be made is to some extent a matter of taste and expense. The commonest and cheapest is black silesia or twill, and sometimes this is lined with yellow or red twill; velvet, india-rubber cloth, have also been pressed into service, and at a push even the operator's coat may serve. The size of the cloth is a point too often neglected by novices; unless you have a good-sized one, it is impossible to work comfortably, and, on the other hand, one that is too voluminous becomes a nuisance from blowing about one's head and muffling one up too much. About three feet or three and a-half feet square will be found a convenient size, though for large cameras larger than this will not be found inconvenient. The focussing cloth the writer uses is four feet square, and, when necessary, this can be tied right round the camera underneath the tripod, thus firmly securing it and preventing any possible chance of its being blown about. Some operators use leaden weights, technically known by dressmakers as "dumps," sewn into the corners, which should act as weights keeping cloth from blowing up, and a little experience with these induced the writer to discard them. Being anxious to secure a negative of a particular steamer one windy day at Gravesend, I sallied to the end of the railway pier, and, using a loaded cloth, a sudden gust of wind lifted the cloth and brought the leaden weight down with no slight force upon the side of my head, since which experience I have been out of the "dumps." It is a good thing, however, to fasten the focussing cloth round the lens by the aid of an elastic band with loops and buttons sewn on to the sides of the cloth, which can be fastened underneath.

The focussing cloth has long been neglected by inventive minds, but lately we have seen an ingenious focussing cloth clip for holding the cloth in position, and a special form of cloth has been introduced which takes the shape of an oblong bag, which can be slipped over the camera, merely allowing the lens to protrude, thus leaving the hands at liberty for focussing, etc.

Several suggestions have been made which have for their purpose the replacement of the focussing cloth by more convenient and less cumbersome means, and the following extract from the "Dictionary of Photography," 2nd edition, p. 93, will make the idea clear:—"An ingenious substitute for the focussing cloth can be made by fixing to the camera back a spiral frame of wire, tapering to the end, and covering the same with black cloth. At the apex affix the compound focuser. This arrangement will close up to a very small space, and add but little to the weight." A focussing chamber has been introduced commercially lately, and it will be found to serve well for the purpose for which it is intended.

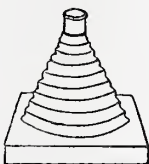


FIG. 28.

Focussing Glass, Compound Focuser, Focus Glass, or Focuser.—In order to obtain sharp definition upon the ground glass, it is customary to use an eye-piece, which is known under the above names. Many operators consider this an unnecessary adjunct, and for outdoor work it is not essential, because microscopic definition is not so absolutely essential as in certain other branches of photography.

There are several forms in the market, all of which differ only in slight degree. The method of using a compound focuser is as follows: On a piece of ground-glass a line should be drawn in pencil, and the compound focuser should now be applied to the plain glass slide and the focus of the eye-piece adjusted by screwing or pushing in and out till the pencil line appears absolutely sharp; it should then be fixed at this point, or a mark made on the sliding tube, so that when required for use it may be at once adjusted to that of the operator's sight, or otherwise grave errors in definition may occur. It is usual to use with this little instrument a small circle or microscopic cover glass cemented to the ground surface of the focussing screen by the aid of a drop of Canada balsam and a gentle heat; but it is necessary first to mark on the ground-glass with a lead pencil so as to be certain that the image seen in the eye-piece is actually in the plane of the ground surface.

A useful improvement in this little instrument has been introduced by Messrs. Marion and Co., and consists of the ordinary focussing glass with a small pneumatic sucker attachment which enables one to place the magnifier in position and leave both hands at liberty.



"Amateur Photographer" 1891 Stereoscopic Slide Competition (Fifth Year).—Prizes: Gold, Silver, and Bronze Medals, and Certificates in each class. Competitors can only enter one class, and every competitor must contribute six slides.

CLASS I.—Landscape, Sea Pieces, and River Scenery, with or without figures.

CLASS II.—Architecture, Interior or Exterior.

CLASS III.—The Fine Arts, which may include Sculpture, Art Metal Work, China, Bric-a-Brac.

NOTE.—Past prize-winners will be awarded "Niepce" or progressive medals, should they win a medal of the same value as that which they have been awarded in past Stereoscopic Slide Competitions.

DATE.—All slides must be received on or before October 30th, 1891.

RULES, CONDITIONS, and ENTRY FORMS will be forwarded on receipt of stamped addressed envelope. The application should be endorsed, "STEREOSCOPIC SLIDE COMPETITION," Editor, AMATEUR PHOTOGRAPHER 1, Creed Lane, London, E.C.

Studies in Art for Photographers.

BY REV. F. C. LAMBERT, M.A.

CHAPTER XI.

VALUES.

THERE are several technical terms freely used by artists and others, but not always with uniform meaning. For instance, the word *tone* has become almost a catch-word lately, and applied so variously that it is not an easy matter to find two persons using it in precisely the same sense. That being the case, it will be as well for us to discard it entirely for a short time, and subsequently enquire into its original and most convenient use. This may be very conveniently done because, more often than not, *tone* is used as precisely similar to and synonymous with *values*. This latter term is to be preferred, because agreement upon its use and meaning is all but unanimous; whereas *tone* is used to mean (1) tint or colour acquired in the toning bath; (2) relative light powers; (3) local colour; (4) colour by illumination; (5) a combination of 3 and 4; (6) tendency to certain colours, frequently referred to as warm or cold.

Values.—By this term we speak of the relative lightness or darkness of objects, apart from their colour. We may compare a pale blue with a dark blue, saying that the former had a higher (lighter) value than the second. Also we may compare a light blue with a light yellow; as, for instance, the wild hyacinth or blue bell with the buttercup. The latter is lighter to the eye than the former is, and yet how does ordinary photography represent these colours?

A moment's consideration will remind us that the range of lightness and darkness among natural objects is immense. Suppose we take fresh-fallen snow in bright sunshine as our highest point in the scale of light, and the darkness of cavernous vacuity as our lowest point. It is conceivable that we could connect these two extremes by, say, a thousand intermediate steps. Having now cut up our brightest light into a thousand parts, it is conceivable that we could make a scale ranging from one part of our available total up to one thousand parts. And all natural objects might be (mentally) arranged in their appropriate places somewhere in this scale, the lighter ones being higher up according to their relative measures of brightness, i.e., lightness, and the darker ones in the same way finding their appropriate places in the lower parts of the scale. Thus we might find a dark yellow higher up the scale than a light red or blue. Hence we might regard any object simply with reference to its position in the light scale, quite apart from its colour impression on the eye. In some such way then we may speak of relative positions in the scale as the values of their light impressions upon the eye, i.e., briefly, their *values* relative to the extremes of the scale.

At first impression it may not be accepted with unqualified assent that the light value is of more importance than colour, and stands next to form in aiding us to build up impressions of objects perceived by the eye—try the simple experiment of examining any (the same) scene first through one (say a yellow) coloured glass and then through another (say a blue) coloured glass. Although the former may convey the impression of summer sunshine, and the latter that of gloomy winter, yet the objects are equally well recognised as regards their form and relative position under both circumstances. Not only does the importance of *values* come next to form, but often is an essential factor in conceiving form. For instance, the circumference of a circle, considered as an outline, will do equally well for a concave, a convex, or a flat disc. But, by the relative

arrangement of light and shade, any one of these three forms may be differentiated from either of the two remaining. This all-important question of values is one which is only in comparatively recent years receiving a due share of attention. A cursory examination of ancient and modern landscape will make this at once evident. What is true of the above concave or convex disc is in great measure true of the near or distant parts of a landscape, or the component parts of a figure, together with its surroundings.

Furthermore, all monochromatic processes must rely upon form (*i.e.*, outline or contour) and values (*i.e.*, relation of lightness and darkness) for their representation of coloured objects at various distances.

The photographer has at command usually some more or less white substance—paper, “opal,” etc.—as a supporting medium for his (generally) monochromatic pigmentary body (silver, gold, platinum, carbon, etc.) His usual limits are white paper and platinum black. The problem before him then is, how can he with these two, and their various possible combinations, best represent the forms and values of natural (coloured) objects?

The consideration of this problem is not perhaps quite so simple as some might be disposed to consider, and must be reserved for the next paper. Meanwhile two fundamental points must at the very outset be continually kept in mind.

Firstly.—It has been known since the very early days of photography that the sensitive compounds of silver, as ordinarily used, including both wet and dry plates, of usual type do not represent many colours with anything like an approach to the truth as regards brightness. For instance, the non-initiated even know that a blue dress “comes out” light, while, perhaps, a pink or yellow one “comes out” dark.

And although much has been promised, and part done, with so-called orthochromatic plates, yet it remains a fact that they have not supplanted ordinary plates with the majority of outdoor workers. For, while solving one difficulty they present others. We have therefore to remember certain technical colour difficulties, at any rate, for the present.

Secondly.—Scientific evidence, put before us by high authority, goes to show that even in the case of a monochromatic object—say a plaster cast in diffused daylight—difficulties are present, the deposit on the negative not being proportional to the theoretical quantity of light reflected from its various surfaces.

Of these two difficulties, which, as it were, handicap us from the outset, the second is not, perhaps, so formidable as the first. Yet neither must be forgotten by the honest and earnest student.

NOTE.—The reader who is curious for further information upon these matters may, in connection with the former, consult “Colour Measurement and Mixture” (Captain Abney), chapters vii. and viii. As to the latter, a paper (by the same author) will be found at page 107 of the *Camera Club Journal*, Conference number, March, 1890.



Harris's “Cytox” Camera.—Messrs. Philip Harris and Co., Limited, of Edmund Street, Birmingham, favoured us with a call this week in order that we might have an opportunity of examining their “Cytox” camera. The changing arrangement is very simple; twelve plates are stored in a chamber or magazine, and as they are placed in position for exposure they stand over a groove, and the sheath, which has a strong wire at the bottom that projects on either side the width of the groove, is held by a spring. When exposed, the pressing of a knob on the top of the camera permits the sheath to fall from the vertical to the horizontal, the pin travelling down the groove on each side, so keeping the plates in one position. The shutter is exceedingly well made, and can be used for time or instantaneous exposures at will. The camera is well made, and is sold, with lens and shutter, the case ebonized or polished, for 45s.; if covered in leather the price is increased 7s. 6d. Further particulars can, of course, be had upon application to Messrs. Harris and Co., Limited.

Unsuspected Causes of Failure.

BY C. HETHTON LEWIS.

PHOTOGRAPHY as an art progresses, and photography as a pastime improves. Each year welcomes fresh recruits to the army of amateur workers, and each one has to mount the ladder of fame by planting his foot on his own experience. Happy is the tyro who can secure the advice of an experienced friend who can explain the epidemic among plates, and the various diseases, measles included, of his prints, incident to the early work of a beginner.

It has been my lot to give advice to those in photographic perplexities, and to trace out the causes of mysterious appearances in negative work that novices are wonderfully successful in securing.

A consultation generally commences by the production of a negative whose image is so covered with confusion that it seems to have retired purposely into the obscurity of fog to hide its shame. The learner hands this out with the request, “What is the matter with this? It does not print very well,” and before one has time to reply, out comes a twin brother, or maybe a sister negative, of woe-begone appearance and with a frill round it by way of embellishment. After this, one is not surprised to see a complete set of relations, over-exposed, under ditto, some “as black as your hat,” others as thin as possible.

Having finished the consultation, then comes the advice. To those, therefore, who meet with the difficulties alluded to, I may offer a few remarks upon prevention of future failures.

Fog, and its origin, may be due to various causes, one of the most unsuspected being a defective camera or dark-slide. I have known cases where many months have passed before the real reason of fog is discovered. In a recent difficulty I found, by a close investigation of the camera, that the lower corner where the bellows were supposed to overlap, did not do so, and the space between the bellows and wood work allowed sufficient light to fog all plates, more or less, taken out of doors. The moral is to examine all apparatus, say in the spring-time, and to remedy any defect. The best way is to extend the camera and place a white card inside, then cap the lens and take the apparatus out of doors in the sunshine. Turn back the focussing screen, and after covering the head and shoulders with a stout cloth, throw the latter over the back of the camera whilst as much of the face as possible is approached, so that by carefully gazing for at least two minutes into the bellows one can see if there be stray light. The camera should be turned about during inspection. Sometimes a little light will get in between the flange and camera front, or down the division of the sliding front.

To test the apparatus thoroughly, the next move should be to take out the lens, and insert a double back with its slide down; then look through the lens aperture, and search for light where the double-back fits on to the camera. The cloth must cover the head while the investigation proceeds.

The cloth should not extend over the bellows, but be kept closely round the frame of the camera and then over the head and shoulders and close up to the neck, so that no light can get into the camera by passing the examiner.

A camera that has seen considerable service may engender fog by allowing light to pass the velvet strips that are placed on the back where the dark slide fits. These velvet strips get worn and flattened down by constant wear, and should be replaced by new velvet strips. The sliding front may want attention to its velvet also.

The dark slides have a velvet strip between the frame and slide; this should be renewed when it is found the slide draws very easily, as the slide will not be light-tight other-

wise. Again, the grooves of the slides get enlarged by the friction of drawing the slide, and light will get down the grooves, when worn, and so fog the plate. The only preventive is to keep the focussing cloth quite over the slide when drawing or shutting it.

It is scarcely necessary to add that the inside of camera, dark slides, lens mount, and stops should be kept coated with a rich *dead black*. The end of a bright screw, or the bright rim of a flange projecting inside the camera, should always be liberally treated with the dead-black varnish.

Fog Produced by Stop Slot.—This is one of the most common sources of stray light reaching the plate, and the makers of lens mounts and diaphragms have much to answer for. A rather amusing incident arose from my directing a student to take some portraits "with the open aperture of the lens." When we came to develop the plates I discovered fog during development, and after much speculation the reason was found. The portraits had been taken with the open aperture of the lens, and it was *convenient to insert no stop at all*. Consequently, the stop slot worked with its open aperture to the sky, to the detriment of the negatives.

For single lenses it is very difficult to effectually cover the stop slot, as the cap is so close to it. The best plan for all lenses with Waterhouse or rotating stops, is to cover them with silk ribbon velvet, cut with a little slit to allow the top of stop to pass through, and then tie the velvet round the mount.

A friend was so troubled with stray light from the slot of a single lens, which was difficult to cover up, that the most appropriate title of *the fogging slot* was bestowed upon it.

Fog may also arise from sun shining into the lens, or from bright light reflected from an object *near* the lens. It is well to shield the lens during exposure.

Fog from over exposure is easier to discover, so may be left to the worker to trace.

Temperature of developer, if high, is nearly certain to veil the plate.

Insecure light in dark-room will also veil the plate. Too strong a developer is likely to produce fog in many cases.

These stray notes will, however, I trust, throw some direct light upon the path of those who are at present in fog, and lead them to a brighter and more congenial way.



With a Camera in America.

BY JOHN FRETWELL.

BEFORE saying anything of my American wanderings, let me express my thanks to the camera clubs in Europe, especially those of Leeds, London, Berlin, and Vienna, for the courtesy which I have received from some of their members during my late visit to Europe.

That the European visitor to the States can count on the same courtesies here, I know from my experience in the days when I came here as a visitor from England, and in later days when, as a member of the Providence Camera Club, I visited San Francisco and other places on the Pacific Coast. I had a very pleasant voyage in the *Etruria*, which came from Queenstown to Sandy Hook in six and a half days.

While this route will always be first for speed, it is not the most satisfactory for the photographer. To him I recommend the northern route, from Liverpool by the Straits of Belle Isle and up the Saint Lawrence River to Montreal, and thence by Lakes Champlain and George and the Hudson River to New York. As he can purchase a first cabin ticket to Montreal for ten guineas, while the

Cunard ticket to New York costs him fifteen, the money expense of the journey will not be greater, and the extra expenditure of time will be amply repaid by the opportunity of making photographs, some of the most exquisite by beautiful scenery in the world, from the rugged grandeur of the Laurantian Hills, and perhaps of travelling icebergs, to the sweet scenery of Lake George and the Hudson River. Returning, he may vary his tour by taking steamer from Portland or Halifax to St. John's, the capital of Newfoundland, and spending two or three weeks in that still only half explored island.

Not the smallest charm of such a journey is the opportunity of intercourse with his warm-hearted fellow-countrymen in the British Dominion. Not that I would thereby decry the hospitality of our American cousins, among whom I have spent some of the pleasantest hours of my life, and in all parts, from the Great Lake to the Bayoux of Louisiana, and from Maine to the Pacific. A common interest, social or scientific, is a sufficient introduction to their courtesy everywhere.

While in regard to photographic lenses, America is still far behind Europe, manufacturers here have made great progress in the construction of hand-cameras. This country has been the leader in the photographic enlargement of microscopic objects, and Walmsley, of Philadelphia, has contrived a very cheap, neat, and portable camera for attachment to ordinary microscopes.

The Waterbury Company have also much improved their hand-cameras. I have just tested one with a rapid rectilinear lens, giving sharp instantaneous pictures at $f/15$ aperture, under this bright New England sky, and costing only seven guineas with roll-holder and dark slides for films and glass plates for 4 by 5 in. views. The chief objection to these cameras is the weight and bulk of the roll-holder. The size in this case is 9 by 6½ by 7½, while the same camera without roll-holder is 1½ inch shorter.

To obviate this drawback, another instrument called the "Kameret," has been patented. In this the rollers are placed in the fore part of the camera, in the two dark corners immediately behind the lens board, being protected from the light by a conical bellows extended from lens to focal surface. An unavoidable defect of their construction is that, whereas in the old-fashioned roll-holder the rollers only touch the back of the film, in the Kameret the sensitised surface passes over the roll-holder, and the friction may have a bad effect on the surface, and so impair the negative. For my own part I would much prefer to carry one or two pounds extra weight so as to use the safe old form of detachable roll-holder and swing-back camera.

This Kameret has also a swing-back, and can be used with cut films or glass plates. But there is no satisfactory hand-camera yet with rising front, and the short-focus lenses, mostly used with them, cover so little beyond the edges of the plates that they would not work satisfactorily with either swing-back or rising front. In fact, many of the lenses sold with 5 by 4 hand-cameras here are really only fit for quarter-plates.

The amateur coming here from Europe will have to pay 45 per cent. duty on any new optical instrument which he may bring with him into the United States. In fact, I had to pay duty on an instrument which I have used for four months in England, Germany, and Austro-Hungary, though I declared upon oath that I required them for professional purposes. Sarah Bernhardt, the French actress, was permitted to bring with her some thousand pounds' worth of theatrical millinery without paying a single cent. Why I should pay on every trifle, while this French madonna of the beanstalks should be let in scotfree, I do not understand. Even after payment of duty and expenses, many

photographic supplies cost much more here than in England. For instance, I can buy with you good dry plates for lantern slides and quarter-plate negatives at 12s. per gross; adding duty and charges, they cost me here 20s. per gross, but an inferior quality of plates made here costs me 22s. per gross for negatives, and 30s. per gross for lantern slides, while finished American slides are sold retail at 2s. each. The most frequent question addressed to me in England, and even in photographic circles, has been, "How can we induce America to reform the McKinley Tariff?" I have always replied, "You can do that very easily by boycotting the tobacco shops." Nearly all the tobacco smoked in England, even that sold as Havanna, comes really from the United States, and if Europeans will once for all give up the use of tobacco until the McKinley Tariff is repealed, that will so reduce American exports to Europe that the high tariff men will mend their manners. Prince Bismarck gave the first example by boycotting American pork, and nothing else that he ever did has so won the respect of Americans as his action in that matter. When I have had more time to look round among my photographic friends, I will write you more. One subject that excites my interest is the enormous growth of photographic reproduction as a commercial business—often for very bad purposes. For instance, a firm of pirate publishers who photographed the whole of the "Encyclopædia Britannica," has published the book at 6s. 3d. per volume.



Reviews.

Guide Pratique pour l'Emploi du Papier Albumine. Par L. Mathet. Published by La Société Générale d'Editions, 24, Boulevard Saint Germain, Paris. Price 2s.

The author of this little brochure is well known as a practical writer on photographic matters, and in the work before us has given a succinct and practical treatise on printing, explaining the sensitising of the paper, printing, toning, fixing, and mounting, with general directions for the improvement of prints. The work is illustrated by four prints; it is well written and in plain practical language, and is not loaded with theory.

Die Photographie bei Kunstlichem Licht. By Dr. J. M. Eder. Published by Wilhelm Knapp, Halle a/S. Price 3s. 6d.

This book forms Part III. of the first volume of Eder's incomparable handbook, which, like the preceding parts, is exhaustive and complete. We find first tabular statements as to the optical brightness and photographic activity of various artificial lights. We then find a summary of the application of the electric light to photography, the principal arrangements, illustrated by woodcuts, for portraiture, for printing, and for micro-photography. The magnesium light, its history, and different methods of application, and the chemical activity of various forms of the light; the flash-light, and the leading methods of obtaining the light, and the use of explosive mixtures is next considered. Such little known artificial lights as zinc and zinc ethylate, Bengal fire, phosphorus and sulphur, carbon disulphide and oxygen, chromium chloride, aluminium, also are included, and then we come to the more homely sources, such as gas, petroleum, and candles, and their application for general photographic work and enlarging. Phosphorescent substances next claim attention, and photography by their aid fully explained. Like all this author's works, the information given is most complete and recent, and the work forms a valuable addition to this particular branch of our literature on the subject.

Catalogue of Old and Recent Works on Photography, Lithography, Helio-type, etc. Max Harrwitz, Potsdamerstrasse 41a, Berlin, W.

This is a catalogue of new and old books on photography and allied sciences which are for sale, and private and society librarians would do well to write to Herr Harrwitz, as we note many works in many languages which are rarely met with.

Apparatus.

ZEISS' PHOTOGRAPHIC LENSES.

WE have received from Mr. C. Baker, of 244, High Holborn, E.C., a price list of the above objectives, for which he is agent. The name of Zeiss is so honourably connected with microscopic objectives, that it was only to be expected that when it appears appended to photographic lenses we should find equally perfect workmanship and construction.

The whole of these lenses are constructed of special optical glass from the glass works of Messrs. Schott and Gen, of Jena, and at least two distinctly new types of lenses are introduced which "are in several respects superior to any of the lenses hitherto constructed."

The new Jena glass, as it is called, is the practical outcome of a series of experiments begun by Drs. E. Abbe and Otto Schott in 1881, and sufficiently satisfactory results were obtained in that year to warrant still more complete scientific investigation into the dependence of the optical properties of amorphous glasses on their chemical composition. In the autumn of 1883 these researches were practically finished, and it was experimentally proved possible to obtain new glasses of totally different properties to any hitherto made, and thus remove the secondary spectrum, or, in other words, proved that by the use of the new glass it was possible to obtain photographic, microscopic and telescopic objectives with much finer correction for all the existent faults of the present lenses. Supported, however, by Drs. Carl and Roderick Zeiss, and materially helped by the Prussian Bureau of Education, experiment was abandoned for the wholesale production of optical glass of all kinds for the market.

Quoting from the price list, we find that the lenses "are spherically corrected for the aperture of the largest of the diaphragms supplied with each lens, and a sharp image is, therefore, obtainable even with this largest diaphragm. Focussing is, accordingly, not affected by interchange of diaphragms, and the plate may be focussed with any diaphragm other than that which is to be actually employed during exposure. In computing the formulæ, particular attention has been paid to compensating as far as possible the evil effects arising from reflections. All the images due to reflection have successfully been brought into such positions as not to exercise any prejudicial influence on the 'brilliance' of the image. In this respect, the new doublets as described below are hardly inferior to single lenses, while the triplets compare, to say the least, favourably with the usual lenses consisting of only two separate lenses. The 'flare spot' does not show itself with any of these lenses; it does not even appear when dazzling light enters the lens. The glasses used for these lenses are, with the exception of the apochromatic triplet which necessarily contains a light borate flint, exclusively very colourless *silicate* glasses, and are in a high degree transparent to actinic rays. The lenses are, therefore, *rapid in proportion to their effective aperture*, and this satisfies, therefore, one of the great wishes of photographers, viz., combination of *rapidity* with *depth of focus*."

The actual lenses are Series III., Anastigmat, a doublet working at $f/7.2$; and Series IV., Anastigmat, a rapid wide-angle working at $f/12.5$; and Series V., wide-angle Anastigmat, working at $f/18$. The main features in the construction of these lenses is that the front combination consists of two lenses, the back combination of three lenses; "in the one the positive element (the collective lens) has a smaller refractive index than the negative element (dispersive lens), while in the other the positive element has a greater refractive index than the negative element cemented thereto. . . . The advantage resulting from combining elements of such opposite properties, so as to form achromatic doublets, consists in the means thereby obtained of completely compensating the astigmatic aberrations of oblique pencils without detriment to the applanation of a large field. Accordingly the doublets constructed after this plan, which we shall henceforth call Anastigmatic lenses, exhibit unusual uniformity of definition over a large field, even when large apertures are being used." Series VI. is a triplet working at $f/6.3$. "This lens combination, which was formulated by Dr. Rudolph after a plan proposed by Prof. Abbe, consists of two single crown-glass menisci and a triple cemented correcting lens of smaller diameter interposed between the latter two. This interposed combination does not sensibly affect the refractive power of the system (in this respect it is comparable to a plane plate); it affects, how-

ever, the entire spherical and chromatic correction of the objective. . . . The manufacture of this triplet is, at present limited to a single series, consisting of achromatic and apochromatic lenses of different foci. The different lenses (made of silicate flints) are, as usual, corrected for two colour rays of the spectrum; the apochromatic lenses (made of borate flints), however, for three colours. In the case of the latter, therefore, the secondary spectrum does not exist, and thus, practically, a much more perfect coincidence of all colours obtains in these lenses, both as regards the focal distances and the magnification corresponding to the different colours."

The numbering of the diaphragms of these lenses is entirely different to our English system, and we do not think the method adopted at all an improvement; they are "numbered by Dr. Rudolph in such a manner that the intensity corresponding to each aperture may be read off directly, the intensity to an aperture $f/100$ being taken as unity. These numbers advance in ratios of 1:2. All these numbers are calculated from the ratio of the linear diameter of the effective incident pencil admitted by the stop to the focal length.

"This gives the following numbers of stops:—

No. of Stop.	Relative Aperture.	No. of Stop.	Relative Aperture.
1	1-100	32	1-18
2	1-71	64	1-12.5
4	1-50	128	1-9
8	1-36	256	1-6.3
16	1-25	512	1-4.5

The photographic exposure corresponding, *ceteris paribus*, to the different stops is, therefore, in the inverse ratio of those numbers."

Our readers will see from this that this method is directly opposite to that advocated by the Phot. Soc. of Great Britain, and contrary to the usual practice, which considers $f/4$ as the unit of exposures.

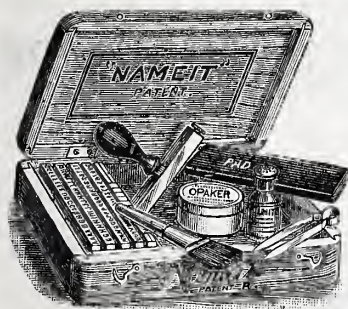


Dark Rooms.—These are crowded out. See complete list, July 24th.

Brighton Photographic Society.—The Hon. Secretary, Mr. A. H. C. Corder, asks us to notify that he has removed to 77, Buckingham Road, Brighton.

Highgate: Wanted a Chemist to Sell Photographic Goods, Chemicals, etc.—A correspondent writes: "I shall be glad to find a chemist in Highgate of the above description. I think he would, after a time, be much patronised. There is certainly an opening for a man of enterprise."

Nameit.—We have already drawn attention to the usefulness of the invention of Mr. A. Gray, of 44, Snow Hill, London, E.C., for



producing names on views, etc. As originally brought out, an intermediate film had to be used. This has now been dispensed with, and the operation of naming simplified. The accompanying illustration shows the whole "plant." The necessity of naming photographs is of course admitted upon all sides, and Mr. Gray's "Nameit" is the simplest and most perfect means of doing the work that has ever been offered to the public. As a proof of the necessity of

naming photographs, apart from our own opinion, we would quote the following from the *Daily News* of the 25th inst.:—"Name! name!" is the cry of a disappointed amateur of photographic views who on looking over his collection finds that a very large proportion have either no names at all, or bear such vague and useless descriptions as 'Rhone Valley,' 'Oberland Mountains,' or 'Swiss Scene.' It is submitted that the names of the localities should in all cases be printed upon them, and not left to the illegible scrawl of ignorant shopmen. The reform might be extended to portraits, which are not seldom found to be incorrectly named. This circumstance may, by the way, explain the occasional curious lack of likeness in the portraits given in our illustrated papers." All that is required to meet the want expressed is a "Nameit," and every retailer of photographic scraps, as well as the actual photographer, should lose no time in getting one of these very useful little printing kits from Mr. Gray.

Holiday Resorts and Photographic Haunts.

NORTH WALES AS A FIELD FOR PHOTOGRAPHY.

BY JOHN A. HODGES.

I. —Introduction—Picture-takers and Picture-makers—Needs of Each—Route Map—Suitability of the Scenery for the Purposes of Photography—Apparatus—Special Lenses—Itinerary—Llangollen—Accommodation—Scenery—The Dee—A Good Suggestion—Chain Bridge—The Canal—A Pretty Picture—Valle Crucis Abbey—A Toll for the Camera—Crow Castle—Plas Newydd.

In this and the succeeding chapters it is the intention of the writer to describe to photographers the attractions and resources, from a picture-making point of view, of that portion of the Principality which is commonly designated North Wales. The district specified includes some of the most beautiful and also some of the wildest scenery to be found in Great Britain, and, from its diversity, affords ample scope for the employment of the camera.

Photographers, speaking generally, may be said to consist of two classes, the larger being composed of those who practise the art for the sake of the amusement to be derived from it, as a hobby, or as a means of bringing home mementos of places visited; the smaller but far more important class being those who, by their work and by their pens, are striving—yea, and succeeding—to raise photography to the pedestal of Art. The requirements of these two classes, it is perhaps unnecessary to state, are wholly and widely different. Beauties which would be passed by unnoticed and unseen by the one would afford indescribable pleasure and profit to the other. Recognising this fact, it will be my endeavour to meet the requirements of the reader whether he belong to the one class or to the other.

As no experienced guide would presume to conduct his party through a strange country without the assistance of a map, I, perhaps, cannot do better than follow the time-honoured custom by roughly sketching out the route proposed to be taken, which, it may be mentioned, will include the choicest scenery to be found in North Wales. I shall indicate also from time to time such places as are likely to form good headquarters for those who do not care to wander from place to place, but prefer to remain in one locality. Although North Wales does not, like Scotland and Ireland, present large tracts of country of an uninteresting and unprofitable nature, yet, naturally, some districts afford more subjects for the camera than others, and nothing is more annoying than to find, perhaps after a long railway journey, that the place selected is unsuited to the requirements of the photographer.

It would be out of place, and probably unnecessary, to speak of apparatus at any length here, and with one or two suggestions I will leave the subject. In addition to the lenses ordinarily in use, one or two single lenses of long focus should be taken, as *without them justice cannot be done to the mountainous scenery of the district*. By "long focus" is meant a lens subtending an angle of from about 20° to 30°; such a lens need not be costly; indeed, the back combination of a rapid, or wide-angle, doublet will, in many instances, be found to answer well, the chief drawback to its use being that it will require more stopping down than would an ordinary single landscape lens. Beyond this, nothing in addition to the apparatus ordinarily used need be taken.

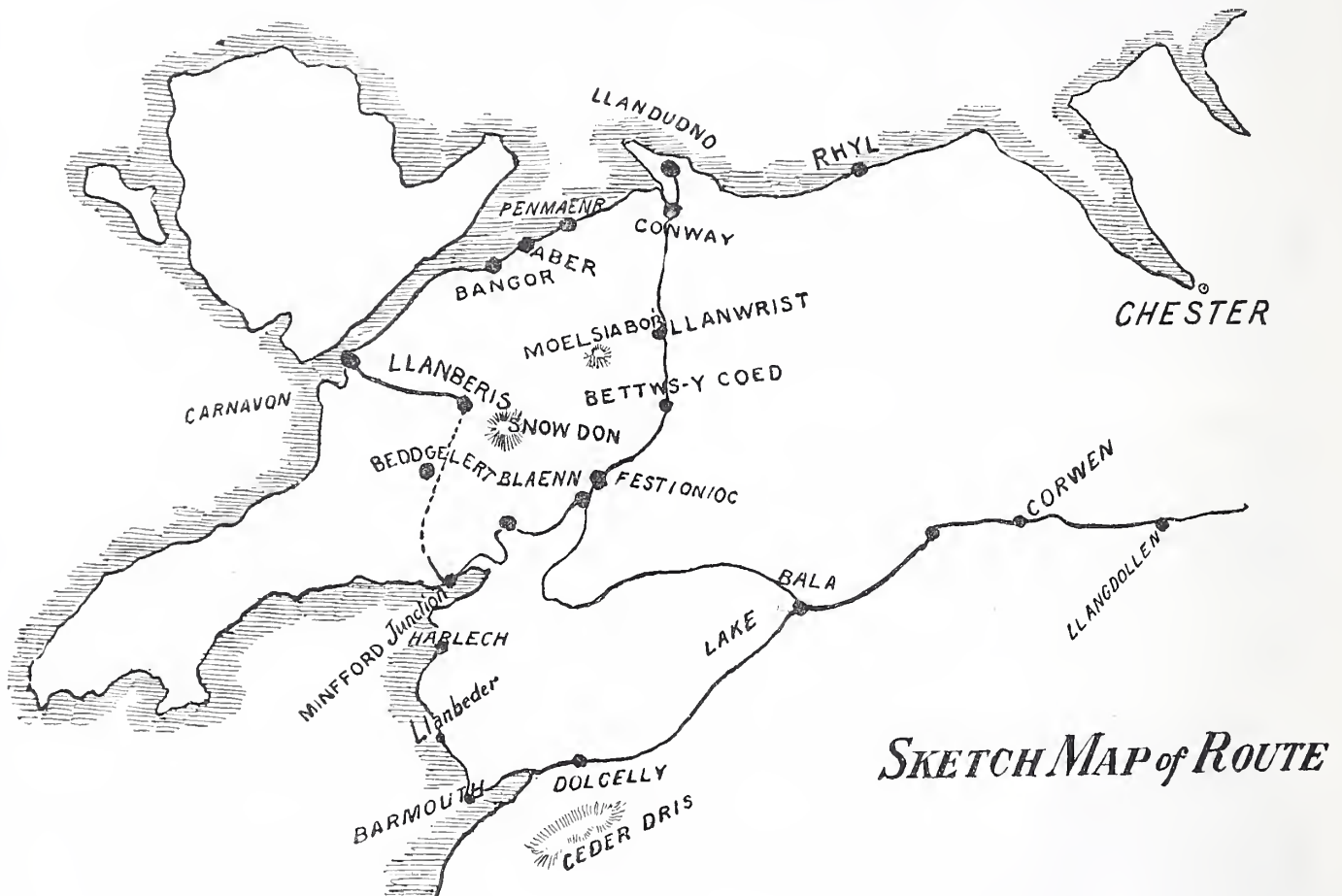
A reference to the map will show at a glance the route by which it is proposed to take the reader. Starting from Llangollen, we proceed through the beautiful valley of the Dee to Bala, celebrated for its lake, thence on to Dolgelly, and down the famous Mawdach Estuary to the sea at Barmouth, on by the Cambrian Railway to Harlech, up the narrow-gauge railway to Festiniog, from whence we drive to Beddgelert, working round the base of Snowdon to Carnarvon, then by means of the North-Western Railway we proceed to Chester, visiting on our way Conway, Llandudno, Bettws-y-Coed, and other celebrated localities.

We will assume that the reader has now arrived at the first-named of the places mentioned in the above itinerary, and is eager for further information. Llangollen is just one of those places which may, without exaggeration, be termed a photo-

grapher's paradise; indeed, a district more suitable for the purposes of the camera probably does not exist. To deal with the more prosaic matters first, it may be stated that the town contains good hotel accommodation, the "Hand" and the "Royal" being the largest houses, and plenty of good lodgings can be obtained; the cost of living, in fact, is distinctly cheap as compared with that obtaining at some of the better known sea-side resorts.

There are several points from which good general views of the town may be obtained, one of the best, perhaps, being from the bed of the river, some few hundred yards above the bridge. By carefully selecting the point of view, some charming compositions may be obtained; if the water should happen to be low, as it usually is during summer and autumn, there will be no difficulty in finding a good foreground of rock and tumbling water, the bridge, with the town behind it, occupying the middle distance, and the beautiful hills forming a background to a most charming picture. The valley of the Dee, hereabouts, is extremely pretty,

which point the Abbey is about half a mile distant. Upon entering, a fee of 1s. will be demanded for the privilege of using the camera, but this, it may be added by way of parenthesis, was the only occasion during several lengthy vacations spent in North Wales when the writer has been called upon to pay for the privilege of taking a photograph. It should be mentioned, also, that the proceeds of this "toll" are devoted to a fund which is being raised to defray the cost of restoring the Abbey. The Abbey is delightfully situated, and will afford material for several exposures, but perhaps the most picturesque view is that from the east, showing the reflection of the ruins in a deep and clear pool, but to get this view in perfection, a still and cloudy day should be chosen. Among the other attractions of Llangollen, Crow Castle may be mentioned. It is, however, not worth scrambling up the hill to expose the plate, the ruin itself being the merest shell. Plas Newydd, the residence of the celebrated "Ladies of Llangollen," will have attractions for some, and if permission can be obtained



and a walk up the bed of the river will reveal many pictures. For this sort of work good stout boots are indispensable; indeed, a pair of fishing trousers would be a great boon, as they would enable their wearer to select points of view which would otherwise have been inaccessible. Two miles from Llangollen, the chain bridge and hotel of the same name is reached, good views of which can be obtained both from the bed of the river and from the hillside overlooking the road. From here Valle Crucis Abbey may easily be reached by crossing the bridge and ascending a few yards to the canal, which diverts the waters of the Dee, and forms a means of communication by fly-boat with Chirk. This canal is unlike any other canal with which I am acquainted, and is extremely picturesque throughout its course. It is, for the most part, overhung with trees, but if an open spot be chosen for the view and the photographer be sufficiently fortunate to include the old fly-boat drawn by a pony in his composition, he will have secured a picture—and, let it be hoped, a prize medal one. The canal must be left at the Ruthin Road, from

some good interiors may be obtained, but a very wide angle lens will be necessary.

"Amateur Photographer" "Holidays with the Camera," Competition (Second Year).—Prizes: Gold, Silver, and Bronze Medals, and Certificates with special prizes of "Niepce" or progressive medals for past prize-winners. In all, twelve prizes will be placed at the disposal of the judges.

SUBJECTS.—All photographs are eligible that have been taken during the "Holidays," but must be landscape or sea pieces, with or without figures, views of town, photographs of cathedrals, churches, public buildings, etc., but not portraiture, figure study of pictures which could be classed as "Photography at Home."

NUMBER.—No more than twelve, or less than six prints are to be sent in. They must all be mounted. They will be judged upon their merits as a whole.

DESCRIPTIVE NOTES.—Each competitor must contribute a short account of his holiday, to be not less than 500 or more than 1,000 words.

DATE.—All photographs must be received on or before the 31st of December, 1891. **RULES, CONDITIONS, AND ENTRY FORMS** will be forwarded on receipt of stamped addressed envelope. The application should be addressed, "HOLIDAYS WITH THE CAMERA," Editor, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C.

Societies' Meetings.

Barrow-in-Furness.—A prize was offered by Mr. J. P. Smith for the best set of four pictures taken on a recent excursion to Holker, Cartmel, and Grange. The photographs were submitted to the Editor of the AMATEUR PHOTOGRAPHER, who acted as Judge. The results are as follows:—1st, "Aristo," Mr. W. Dunlop, for his set of views embracing Holker Village, Cartmel, Cartmel Church (exterior), and a well-chosen and artistically finished photograph of the South transept of the church. 2nd, "Semper Sursum," Mr. J. Carless, with a very even and carefully executed set of prints, embracing views of Cartmel and Grange; of these the most successful is one of Cartmel Church from the Beck. 3rd, "Letters Four," Mr. Stamp, with a thoroughly well executed set of views. On the 18th inst. the members of the section were kindly invited by Mr. Blechynden (the President) to spend an afternoon at Newby Bridge. The day being perfect, the cameras were soon at work and a number of exposures were made at Backbarrow; the party then proceeded to Newby Bridge, where more plates were exposed on the beautiful scenery. An excellent tea was provided in the Swan Hotel at 5.30, after which the party walked to Lakeside (Windermere), taking several views by the way.

Bath.—On the 22nd inst. the members paid a second visit to the well-known and picturesque grounds at Prior Park. The Society is fortunate in having as an active member the President of the College, Canon Williams, and this gentleman, who is an accomplished photographer, takes a good deal of interest in matters pertaining to the art the Society promotes. The day was unfavourable for photography, but occasional outbursts of sunshine facilitated the work of the party, and it seems that more pictures were obtained than during the visit of the Photographic Convention to the same place.

Birmingham.—The meeting was held on the 23rd inst., Mr. W. Jerome Harrison, F.G.S., in the chair. The Hon. Secretary brought before the meeting Mr. W. T. Stead's Magic Lantern Mission, and also exhibited and distributed samples of Powell's Pyro Developoids. Mr. W. T. Mousley, Hon. Sec. Excursion Committee, read very favourable reports of excursions made to Compton-Winyates, Tamworth, Lapworth and Packwood. The question was asked, what is the cause of black spots appearing on the negative film? The chairman thought it might arise from either undissolved pyro or from using impure town water. The chairman then said the business of the meeting was "The exhibition of photo-survey prints of the County of Warwick." He hoped all would contribute to the survey and help it, if only by a little. They were working on the six-inch ordnance map, and should require from, on an average, 15 to 25 prints from each member of the survey section. He regretted the weather had been so unsuitable, but was glad to see so many prints brought forward. The following gentlemen amongst others showed pictures taken by them for the survey, and gave short accounts of the places visited:—Mr. J. T. Mousley, of Maxtoke Priory; Mr. J. Simkins, of Seccington, Newton Regis, etc.; Mr. T. Taylor, of Leake Wooten; Mr. E. Underwood, of Baddesley Clinton; Mr. A. J. Leeson, of Fillonghley, Corley, etc. Mr. G. A. Thomason exhibited some of Packwood, etc. The Chairman had a very large and fine collection, of Rowington, Tamworth, Lapworth, Temple Balsall, Coleshill, Knowle, Maxtoke Priory, and Compton-Winyates, besides examples of the different means of present day locomotion, street scenes, etc. The secretary called attention to the next half-day excursion to Arley and Fillonghley, etc., on August 8th.

Faversham.—The monthly meeting of this Society was held at the Institute on Tuesday, July 21st, Captain Hooper, Vice-President, in the chair. The members' work done at the last excursion (Canterbury) was produced and criticised, prints being chosen for the Society's album; arrangements were also made for an excursion to Whitstable on the following Tuesday. An album presented to the Society by Captain Hooper was on view, and a vote of thanks passed to that gentleman. The business of the evening was a paper on "Lenses," by Dr. Evers, describing the different forms of lenses, their manufacture, advantages, disadvantages, etc., and illustrated by specimens, diagrams, etc., kindly lent for the occasion by Messrs. Taylor, Taylor, and Hobson. This gave rise to an instructive discussion, and the evening concluded with a vote of thanks to the lecturer.

Hackney.—The forty-ninth ordinary meeting was held on July 23rd, Dr. Roland Smith in the chair. The paper and demonstration for the evening was on "Intensification of Silver Paper" by the Assistant Secretary. Prints were handed round showing the different colours obtainable by this process, which is that introduced by Mr. Lyonel Clark. Saturday, July 25th, a pleasant afternoon was spent at Hampton Court.

Holborn.—The monthly lantern night was held on the 24th inst., Mr. T. O. Dear in the chair. A large number of excellent slides were thrown on the screen, chiefly those made from hand-camera negatives by Mr. Hutson. Smaller sets were shown by Mr. Alfred Hodges and Mr. Plumbridge.

Richmond.—The ordinary meeting took place on the 24th, Mr. Ardaseer in the chair. Mr. Richardson showed a xylonite developing dish, and the chairman Adams' lantern slide printing frame. The subject for discussion was Dark Rooms. Mr. Garrett described the Davenport portable Dark Room; Mr. Cembrano, a travelling dark room of black material, and like a mosquito net; Mr. Ramsay an iron building, by Boulton and Paul; Mr. Troine, an old third-class railway carriage, which he had converted into a dark-room and workshop. Other members described make-shifts for the purpose, and the chairman gave a short account of his adaptation of a wooden shed at the side of his house. The Burnham Beeches outing was altered to one to Virginia Water, which duly came off on Saturday, and an enjoyable afternoon was spent.

South London.—At the last meeting of this society, Mr. F. W. Edwards in the chair, the subject for discussion was "Lenses," the many forms of which, and their uses, were explained and shown by the chairman. There was also on exhibition, through the kindness of Messrs. Taylor, Taylor, and Hobson, of Leicester, a collection of their lenses, and specimens showing the articles in various states of preparation, from the rough castings to the complete instruments, together with the tools used in their manufacture. Amongst the finished lenses a series of "Casket" (or lenses all fitting one mount) attracted much attention and should be a valuable help to photographers. A hearty vote of thanks was passed to Messrs. Taylor for their kindness and trouble by the thirty members who were present. Some interior work was shown by Messrs. W. Rice and H. E. Farmer, taken on the last of Society's excursions to Rochester.

Tunbridge Wells.—The members had their third excursion on Wednesday, the 22nd inst., when Mayfield was selected, about eight miles from Tunbridge Wells. The reverend mother superior of the old palace kindly gave permission for members to take photographs of the ruins of the old palace. The altar piece is a splendid work of art, and the sister deputed to show the members round was most assiduous in her attentions, describing everything of interest and with thoughtful care; a notice was placed on the chapel doors whilst plates were being exposed inside. Several views of the exterior were afterwards taken, as also were plates exposed on the old houses in the village.



Mr. E. G. Platt, of Birkbeck-road, Kingsland, so well known as the amateur photographer's "guide, philosopher, and friend," advises us that he has taken Mr. J. D. Witte into partnership. The firm will in future be known as Platt and Witte, and we have no doubt they will become even more popular than Mr. Platt.

Portable Dark-room for Army Officers.—It was quite to be expected that the inventors of so useful an adjunct to photography as the "Eveready Dark-room," Messrs. Davenport and Co., Park-house Street, Camberwell, S.E., would not be long before they placed before the public a special dark-room for officers in the army. We have not yet seen one of these rooms, but the following is the description we have received:—"The main points observed in its construction are portability, lightness, and ventilation, and in each of these features it is perfect. Generally speaking, the 'Army' is a facsimile of the far-famed 'Eveready,' excepting that the slides are not of wood. The sliding window and lamp bracket, sink with waste pipe, benches, shelves, and wood floor resting on joists raised two inches from the ground, have all been retained. The ventilator at first gave us much trouble, but ultimately we succeeded in producing one that even in the tropics will be found perfect. The portability of our 'Army' dark-room is proved by the fact that though it measures 6 ft. 9 in. by 4 ft. by 3 ft. 6 in. when erected, it occupies a space only 41 by 21 by 12 in. when packed, including sink, benches, shelves, and all fittings. The whole can be taken down, strapped together, and made ready for travelling in ten minutes; yet, when erected, the 'Army' is as rigid, as airy, and as comfortable to work in as an ordinary room. This is essentially an indoor dark-room, therefore the finish and general appearance have received our attention. The outer cloth is of a handsome, deep, ruby colour, bound round with thick ruby and gold cord, the outer window frame being varnished a rich gold to match. We have carefully avoided introducing anything either 'faddy' or useless in the 'Army' dark-rooms. They are constructed to stand the rough usage of the camp or barracks, and the anything but careful handling of officers' servants, Custom House officials, and others." Further particulars will, of course, be supplied by Messrs. Davenport and Co. We are pleased to find this young firm so enterprising, and we wish them all the success their energy deserves.

To Correspondents.

All communications for these columns are to be addressed to **The Editor, "Amateur Photographer," 1, Creed Lane, Ludgate Hill, London, E.C.**

RULES.

1. Write clearly and distinctly on one side of the paper only.
2. Write each Query or Answer on a separate sheet of paper.
3. Write the name and address legibly on the back of each communication, and sign all Queries and Answers with name or *nom de plume*.
4. All matters for these columns MUST be received by **TUESDAY MORNING'S POST**.
5. The Editor does not undertake to answer questions by post.
6. In answering Queries, correspondents are requested to mention, in every instance, the *number and full title of the query* referred to.

QUERIES.

4899. **Changing Plates.**—Can anyone inform me the best way to pack plates after exposure on a tour? Could I get some of the envelopes used for storing negatives in, with spaces printed on front for exposure and other details, and then put exposed plates in these and pack back in plate boxes? The ordinary way of wrapping the plates up in paper is apt to scratch the film, and I think that an advantage would be gained by the spaces for details of the picture, that is, if the paper the envelopes are made of is of a quality and make so as not to damage the plate in any way. Perhaps some other amateur may be able to advise me in this, advice for which I shall be grateful.—C. H. R.

4900. **Cornwall.**—I am going into Cornwall, Plymouth to Penzance (G. W. R.) shortly, and shall be much obliged if someone will kindly say what are the principal places worth photographing, and time of day, and length of exposure, Ilford or Paget plates to be used.—EXONIAN.

4901. **Adapter.**—I use Lancaster's half-plate 1891 Instantograph. Would some reader kindly advise me (1) whether, if I get an adapter (sold by Shew and Co., as stated in page 3 of "Amateur Photographers' Annual"), I can take whole-plate negatives as well as with a whole-plate camera; (2) will it injure the appearance of the camera, or make it less portable; (3) where I can buy cuffs (I think they are made of india-rubber) to cover coat-sleeves?—LUX.

4902. **Ayr.**—I intend spending a fortnight in Ayr, and shall be much obliged if any brother in arms can give me any news regarding what to photograph, "bits" of river scenery, and relics of Burns, and if permission is required?—ANOTHER BEGINNER.

4903. **Cardboard Backs.**—Can anyone tell me where to get hinged cardboard backs for supporting opals or photographs mounted in optical contact with glass; I mean ones like those on the backs of opals and opalines sold in shops?—HIBERNICUS.

4904. **Exposure.**—In "Wormald's Exposure Book," page 39, he says that sensitometer Nos. 18 and 19 indicate respectively 9 and 12 times the rapidity of a wet plate; and Nos. 23 and 25 indicate 34 and 60 times. On page 41 he says that Ilford ordinary plates are of 18 to 19 sensitometer number, and are 30 times rapidity of wet plates, while special rapid Ilfords, which are of 23 to 25 sensitometer number, be gives as of 80 times rapidity. Can anyone explain the great discrepancies between pages 39 and 41, and say which is right?—HIBERNICUS.

4905. **Sheaths for Magazine Cameras.**—Can any one advise me how to prevent iron sheaths for plates, as used in hand magazine cameras, from rusting?—PARAFFIN, I fear, would come off on to plates and spoil.—J. E. THORNBURN.

4906. **Lens.**—Ought a lens to give good definition at the margin of plates with its full aperture or f/16? I have a R.R. Optimus lens which does not fulfil the above?—PEPPELEXED.

4907. **Aberrystwith.**—Would any reader of this paper kindly tell me (1) if I can get Ilford plates at Aberrystwith, (2) and also of any pretty bits in the neighbourhood?—R. MURDOCH.

4908. **Fixing Plates, to Avoid.**—The following formula appeared some time ago in this paper, for making a solution in which to soak plates that are developed with hydroquinone while away from home:

Potassium bromide	5 grm.
Acetic acid	5 c.c.
Alum	5 grm.
Water	150 c.c.

I shall be much obliged if any reader can tell me if it is suitable for pyro-developed negatives?—DAISY.

4909. **Aberrystwith.**—I should be glad for any information respecting places of interest round about Aberrystwith, with hints as to exposure and the best

time of day for photographing them.—YORKSHIREMAN.

4910. **North Wales.**—As I am thinking of spending a week in the neighbourhood of Bettws-y-Coed at the end of August, shall be obliged by any information respecting places worth seeing, hotel or lodging accommodation, etc. Are slow or rapid plates advisable? I should be glad to hear from anyone who would care to join me. Can anyone recommend a temporary resting-places at Chester, where I purpose spending a day or two? Any information will greatly oblige.—CAMBRIA.

4911. **Thomas's Cyclist Plates.**—Can anyone who has used these plates recommend their use in a hand-camera? Are they as good as Paget xxxxx?—DUBITAS.

4912. **Bromide Enlargements.**—Will someone kindly give particulars as to working up bromide enlargements, what colours, and how applied, etc.?—W. F. FROST.

4913. **"Eveready" Dark-Room.**—I shall be glad if any one of the readers of the AMATEUR PHOTOGRAPHER who has purchased one of the "Eveready" dark-rooms, manufactured by Messrs. Davenport and Co., of Camberwell, could recommend it as being a thoroughly light-tight and well-made article? A reply will oblige.—W. H. ELLIS.

4914. **Lens.**—Is Pigott's half-plate R.R. at 35s. a really reliable instrument, or is Hockin's at 33s. a better one? Any information respecting this will greatly oblige.—LENS.

4915. **Shutter.**—Which is the cheapest and best instantaneous shutter (pneumatic)?—LENS.

4916. **Hand-Camera.**—Can any of your readers recommend from personal knowledge a really reliable 5 by 4 hand-camera (not a magazine), dispatch box shape? I have one of Turnbull's, but light appears to get in when pulling out and returning shutter of double back, and being obliged to open camera to set shutter is a great disadvantage.—TRAVELLER.

QUERIES UNANSWERED.

July 10.—Nos. 4833, 4847, 4850.

" 17.—Nos. 4863, 4865, 4866, 4868, 4871.

" 24.—Nos. 4877, 4886.

ANSWERS.

4833. **Colwyn Bay.**—Seeing some replies to queries re Colwyn Bay, I know that Mr. E. Lloyd, chemist, keeps a stock of plates, various size. This may interest your readers.—DAVID LEWIS.

4860. **Fog.**—In answer to "Pepo," I do not think there is anything which can be used for your purpose; the best thing to do is to stop the crack on the slide, so as to prevent any more plates from being "fogged."—W. H. ELLIS.

4861. **Blackpool.**—Nothing; it is the baldest neighbourhood imaginable.—H. N. MALAN.

4864. **Ilfracombe.**—To answer this question fully would be, I am afraid, trespassing on more space than the Editor would care to allot me, so I would refer "Silver Print" to page 14, vol. viii., of the AMATEUR PHOTOGRAPHER, where he will find not only Ilfracombe fully described, but also Bideford and Clovelly, two places of great interest to the photographer. I may say I have just lately returned from Ilfracombe, and have brought back more than forty (whole-plate) negatives out of four dozen plates exposed, and I would also add that if "Silver Print" would make his tour with the camera a successful one, he must use a small stop and give a short exposure. I used Ilford extra rapid plate and R.R. lens, with f/44 stop, and averaged 1 sec. exposure; in fact, some of my best results are from those negatives on which the exposure was shortest, for on most of them I merely took off the cap and on again as quickly as possible. "Silver Print" may possibly know all about this part of the business, but as this paragraph may, as I have no doubt it will, be read by many brother amateurs, I give it because one not in the know can so very easily over-expose, the light here being exceedingly strong, and I am giving my actual experience. A very convenient dark-room is to be found at Mr. Keen's, chemist, in the High Street, which he lets at a charge of 6d. per day, but as I bought some plates from him, he allowed me to change, not develop, them free of charge. Ilford plates are about the only make he stocks. As to the last part of "Silver Print's" query, I could set down and fill twenty pages of the AMATEUR PHOTOGRAPHER of "places of interest at or around Ilfracombe," for let him once land in this loveliest of all the English counties and he will find it a difficult matter which picture he shall take a shot at first, for here, as, in fact, any part of Devon, pictures are to be found at every point of the compass.—BEN.

4869. **Normandy and Brittany.**—In the places you name your camera will only excite curiosity, and not much of that. There is no veto on your photographing Mont St. Michel and churches outside. I never tried interiors. At St. Malo I exposed several plates on the ramparts, and even got a sentry to give local colour to the picture, which rather pleased him; and at Dol two gendarmes in full war-paint proudly stood for their portraits. Inland, the natives are all respectfully curious, but rather shy of posing.—H. N. MALAN.

4876. **Canterbury.**—Permission to photograph i

the choir, cloisters, etc., of the Cathedral must be obtained from the Dean, which can be done without difficulty; for the nave it is not required. Service is held from 3 to 4 daily, and the Cathedral closes at 5, so those hours must be avoided for interior work. I do not know how early in the day one could get in. The beautiful south porch could be well taken during time of service, also any other bits on south and west sides. There is a fine view of the famous tower from the School Green on the other side of the Cathedral, but that must be taken very early in the day. Across this green is also a fine Norman stairway, which should be taken at midday or early afternoon. There are also numerous other objects of interest at Canterbury, the old gateways, St. Martin's Church (afternoon light), etc. Shall be pleased to give more information if you will write to my address.—C. J. E.

4878. **Fixing Bath.**—The only effects of omitting ammonia from the above would be (if the bath were acid), loss of tone in the prints, and yellowing of the whites. Ammonia is an aid to thorough fixing, however, and thus is a partial preventive of fading.—PEN.

4878. **Fixing Bath.**—I never use ammonia in the fixing bath, and all my prints keep well. I do not believe it affects the permanency at all.—LUMIERE.

4879. **Exposure of Ilford Plates.**—The natural inference to be drawn from your query is, that Wormald's tables are of no use, but as they seem highly recommended, I should say you have not classified your subjects under the right headings. Both the cases you mention I should call "open landscapes." I have used Ilford plates for some time, and have found that I can get on very well without exposure table at all. Probably your developer, too, is very strong.—PEN.

4879. **Exposure of Ilford Plates.**—In answer to "Hibernicus" puzzling query, I should like to know how he got at the figure of 3 sec. against 7 for the exposure of the first plate, and also how he got at such a reduced figure of 2 sec. against 12 for the second plate. I think I can answer these two questions, viz.: (1) After he exposed the first plate and found it over-exposed, what made him think of exposing the second plate for 3 sec., which is less than half of what Wormald's tables say? He thought the book was not correct, and he exposed the plates just as he thought right, with the result that it was a good negative; then that plate was exposed by guess work or by experience, no matter how much or how little. Now the second: After getting a good negative by judging himself as he did when exposing the first plate, he thought he would try Wormald's tables again, but when hereon he came to 12 sec., what made him go to 2 sec.? The simple reason that he thought it was too long an exposure, and as he exposed the first plate with good result, he thought he could expose the second with just as good a result, which he did, and he also had a good negative. My experience in exposure is that the more plates you expose without looking at exposure tables, the more correct you get after a time, taking into consideration that "practice makes perfect." There are only two faults which will fit this query, viz.: (1) that when he was reckoning, he reckoned wrong; (2) or he under-developed the plate which he exposed first, it being perhaps a little over-exposed, and using a rather quick developer, the plate shot up and showed its picture so quick that it made him think it was developed enough long before it really was. I have been told over and over again that it is a very bad practice to use an exposure book, which I should advise you to do. I have used Wormald's exposure book, but I have never had a very good result either under or over exposed. I have not for the last six months used an exposure book of any kind as I have always exposed my plates by my own judgment, and I generally reckon that ten out of twelve turn out to be, as far as I can say, very good. Hoping you will try to expose plates by experience.—W. H. ELLIS.

4880. **Enlarging Room.**—Red or yellow tissue paper would be preferable to varnish, and I should say brown paper better than either to block out a window. If you have a large amount of transmitted non-actinic light entering the room at the time of exposure, it might overcome the small amount of white light entering through the camera lens. Have the room quite dark, and work with your developing lamp.—PEN.

4880. **Enlarging Room.**—In reply to "J. I. H." Ruby varnish would be just the thing to use. It can, I think, be easily removed off the glass by using a little very strong soda and water.—W. H. ELLIS.

4881. **Enlarging Camera.**—In answer to "J. I. H." I think Griffiths' fixed enlargement camera is a good camera; if you want to enlarge up to whole plates, you must get a camera which will do so without first enlarging to half plate, then to whole plate.—W. H. ELLIS.

4881. **Enlarging Camera.**—Griffiths' is for daylight enlarging, and if you get a whole-plate size you could enlarge direct from quarter plate.—PEN.

4882. **Toning Bath.**—I have not found your formula amongst the most reliable ones, but should say it would work pretty well. It will not keep. I find that: Borax 48 gr. Gold 1 "

Water, 8 oz. (sufficient for about 12 half-plates) tones well if mixed fresh every time.—PEN.

4882. **Toning Bath.**—In answer to "X. Y. Z." I think the formula described in his query is a very good one. It will tone six half-plate prints at a time, and if

not discoloured (it ought not to be if the prints are properly washed before putting them in the toning bath), it will tone another six, but no more. They will take about twenty minutes to tone properly.—W. H. ELLIS.

4883. **Canterbury and Sandwich.**—See answer to 4876 as to Canterbury. I have not visited Sandwich, but believe it is well worth it.—C. J. E.

4884. **North Wales.**—"Cyclo-Photo" would do well to start by Ruabon, then on through the following places: Llangollen, Corwen, Bala, Dolgelly, Barmouth, Harlech, Festiniog, Tan-y-Bwlch, Bettws-y-Coed, Capel-Curig, Beddgelert, Carnarvon, Llanberis (return to Carnarvon), Bangor, and on to Conway. Roads are good ordinary. Scenery at each place, and all on the way, A1.—EDYSON.

4885. **Hyde Park.**—In answer to "Fred," you will find plenty of "special" views while going only a very little distance.—W. H. ELLIS.

4887. **Harrogate and District.**—Permission to photograph Studley Royal from the agent, whose house is just inside the park; Ripon Cathedral interior from the Dean; none required for Fountains or Bolton Abbeys.—PEN.

4888. **Lens for Detective Camera.**—The Thornton-Pickard "Special" Shutter would be suitable for all, and the ordinary "time" for most subjects.—PEN.

4889. **Artistic Light in the Ardennes.**—I spent a fortnight at Dinant last month and found the light about the same as at home. The neighbourhood abounds in exquisite bits for the camera. I exposed thirty-four plates, and only refrained from doing more because I wanted to save a few for Huy—another charming centre for excursions. If it will be useful to "Ardennes" I will send him particulars by post.—HIOHBROOK.

4890. **How to Make Dry Plates.**—Weigh out separately:

- | | |
|--------------------------------------|--------|
| (1) Potassium iodide | 10 gr. |
| (2) Potassium bromide | 135 " |
| (3) Nelson's No. 1 photo-gelatine .. | 30 " |
| (4) Silver nitrate | 180 " |
| (5) Nelson's gelatine | 160 " |
| (6) Heinrich's gelatine | 80 " |

Dissolve No. 1 in 1 dm. of distilled water, and No. 2 in 12 dm.; to No. 2 solution add one drop of hydrochloric acid and sufficient iodine to give it a deep sherry colour. Soak No. 3 in 1 oz. distilled water for ten minutes and dissolve by the aid of a water bath. Dissolve No. 4 in $\frac{1}{2}$ oz. distilled water, and heat to about 120 degs. F. In the dark-room—add No. 2 to No. 3 and shake for twenty minutes; add half No. 4 solution and shake for ten minutes; add No. 1, shake for five minutes, add half remainder No. 4, shake for five minutes, then add the other half and shake for five minutes. The other ingredients are to be soaked, dissolved, and added after the first emulsion has been boiled.—PEN.

4891. **Photographs at Night.**—It is possible to take photographs at night, but the exposure would be so long that the game would hardly be worth the candle. The exposure would be from 2½ to 3 hours with a slow plate and one hour with a quick plate.—LUMIERE.

4892. **Dunoon, Kilm, Rothesay.**—If F. Holmes will send his address to me, I shall be pleased to give him information about Rothesay. Lodging can be had at Mrs. McIntyre's, High Street.—F. R. BALL, 17, The Chase, Clapham, S.W.

4894. **Barmouth.**—I have just returned from Barmouth, and have found a most comfortable residence with Mrs. F. C. Rawlings, Aher House, who is not a Welsh woman, but English, and can be relied on for punctuality and cleanliness.—EDYSON.

4894. **Barmouth.**—In reply to "Verax," I had good apartments at Mrs. Jones's, Mawddach House, two minutes from station, bed and sitting-room 16s. per week, with attendance. Also at Beddgelert, at Mrs. Owens', a small cottage, bed and sitting-room, attendance, 15s. per week. Should be pleased to give further particulars.—F. HOLMES (address with Editor).

4895. **Pyro Developer.**—The colour you name does not interfere at all with the development. I generally mix mine with citric acid, and I find that it turns very little.—LUMIERE.

4895. **Pyro Developer.**—Add to your formula 3 or 4 oz. of pure sulphite of soda, making bulk of solution up to 10 oz. if necessary. Use distilled, or at any rate boiled, water. Keep the air away from the solution, and keep it in the dark. You should not then have any trouble in keeping it clear.—C. J. E.

4896. **Toning Bath.**—Your bath deposited its gold, no doubt; one reason being that it was not concentrated enough. All toning baths should be distinctly alkaline, and the strength should not be less (for a stock solution) than one grain of gold to the ounce. Dilute with water for use. To recover the gold in your old bath, collect the black precipitate, wash it well, and shake up with distilled water acidulated with nitric acid (1 to 80); add to this a solution of chloride of lime, made by mixing 80 grs. of chloride of lime with 1 oz. of water, and filtering; add this latter gradually to the deposit and acid water, and heat to the boiling point; it will then be found that as more chloride of lime solution is added, the gold will dissolve. When entirely dissolved it may be kept for future use, and sufficient chalk added each time to neutralise any free acid before using.—PEN.

4896. **Toning Bath.**—In answer to "J. W. W.'s" query, I do not think he could have put enough chloride of gold in the bath in proportion to the various other chemicals he put in, or he could not have measured the various chemicals out correctly, as it is one of the principal rules in photography to see that your chemicals are first measured by scales (for solids) and by glass measures (for liquids), and not by guess work, and then see that you put your chemicals in clean bottles. I should think it would be better, instead of making a bath of 20 oz., to make only 10 oz., as it does not keep very long; unless you are always toning; then it would not be so long before it was all used, and it would be best to make 20 oz. I always put one tube, 15 gr., of chloride of gold (glass included) in one bath. I can recommend you a bath which I have used for some time, and have always had well-toned prints from it, viz.:

- | |
|--|
| (A) 15 gr. of chloride of gold (one tube). |
| (B) 1 oz. acetate of soda. |
| (C) 1 dm. bicarbonate of soda. |
| (D) 15 oz. of water (distilled). |

A costs 1s. 9d.; B, 3d.; C, 1d.; total, 2s. 1d. All the above must be correctly measured or weighed and put in a coloured stoppered 20 oz. bottle, either red or green. In breaking the tube of gold it is best to hold it over the mouth (narrow) of the bottle and knock it with a knife or something hard, and when it is broken put the remains of the glass in the bottle with the gold, then put the other chemicals in, and water last (warm is the best); this must be kept twenty-four hours before using, and when using take (to tone six half-plate prints) 1 oz. of the toning bath and 8 oz. of water; if the toning bath is not discoloured (which it ought not to be unless you did not wash the prints for ten minutes before putting them in the toning bath), you may tone another six prints. Each six will take fifteen minutes to tone, on condition that you wash the prints well in water before putting them in the toning bath; if you do not, they will take between thirty or forty minutes to tone, and then they will be a bad colour (as the silver on the prints prevents the toning solution to act on them). I think if you follow the foregoing instructions you will be getting a little further on the road towards getting the proper coloured prints.—W. H. ELLIS.

4897. **Mat-Surface Paper.**—Print deeper; if toning proceeds very rapidly (in less than ten minutes) use the bath weaker; make the fixing bath distinctly alkaline by the addition of ammonia; and your prints ought not to lose colour.—PEN.

4898. **Background.**—In answer to "Gringo," a large white blanket is the best thing for your kind of background, and is not so likely to move like a sheet. I think the medium tone is to be obtained by correct exposure.—W. H. ELLIS.

EDITORIAL.

SPECIAL NOTICE.—We are very pleased to find that replies in this column are so much appreciated, but we should be very grateful if those requiring advice would send their letters to us before TUESDAY MORNING'S post if possible. The time occupied in replying in this column is very considerable, and owing to the often late receipt of letters, many matters have to be left over each week. This we much regret.—ED: AM: PHOT:

ISLEY R. CODMAN (Dex).—Many thanks; the gentlemen were members of the Camera Club, and their experience is fairly widely known.

H. M. HINSHELWOOD.—At present we have not found your photographs.

AMATEUR not Immature.—Many thanks for your letter. We gave a just review of the book, and always endeavour to keep personalities out of the AMATEUR PHOTOGRAPHER.

J. T. H.—A heliostat is very expensive and a lot of trouble. You had better fill in the aperture of your window with ground-glass, and place a reflector outside at an angle of 45 deg. The tripod you enquire about is Turnbull's walking-stick tripod, price 22s., 6, Rose Street, Edinburgh.

B. WILSON.—(1) Acid sulphite of soda can be obtained from Marion's, 23, Soho Square, but any chemist ought to get it for you. (2) We cannot give you this information except by letter; if you like to repeat your query and forward stamped addressed envelope, we will then tell you. (3) The matter is now under consideration, and will probably be altered.

F. R. BALL.—Almost any optician keeps these—Wood's, Cheapside; Watson, of Holborn; Swift, or Hughes.

TRAVELLER.—Loman's Reflex is the only one which will give full-size finder. The Platinotype Company's Key night suit you. We insert your query.

S. C. BRIGHT.—We cannot possibly tell unless you give us the diameter of diaphragm aperture. The focus of combination is $\frac{1}{4}$ in., that of back lens $\frac{1}{2}$ in., that of front 8 in. Supposing the combination works at $f/10$, then the diameter of your diaphragm will be 19-40ths or practically $\frac{1}{2}$ in.; then the front lens will work at $f/16$, and the back at $f/24$, therefore the relative exposures will be for combination 1, for front lens 2, for back lens 10.

LLEWELIN ROBERTS.—(1) The camera has had a large sale, and good work can be turned out with it;

What lens have you got in it? (2) Paget's xxxxx. have always given us good results. (3) Eikonogen is the best developer for snap-shots; see our leader a week or two back.

E. M. ASPINALL.—Your negative was received in small pieces, and we were unable to gain any idea of the exposure from it. 1. You might try almost any good plates, such as Fry's Special or Paget XXX, and back them. 2. The duration of exposure depends so much upon the light that we dare not hazard a guess. 3. The lens should be stopped down till the image appears sharp all over. 4. The time of day depends greatly upon the light, but on a day without sunshine, which is preferable, about midday should be correct.

PETTER.—1. Acid sulphite of soda is a solution of sodium sulphate saturated with sulphurous acid; you would most likely be able to obtain it from McGhie and Co., of your town. Notwithstanding the recommendation, we strongly advise you not to use it for silver prints; free sulphurous acid in any form is certainly prejudicial in the long run to permanency. 2. Chloride paper is quite as permanent when toned with borax as with the sulphocyanide bath; the yellowness with the latter bath was caused probably by using alum in it; as we have frequently pointed out, this should not be used with any hyposulphite or sulphocyanide.

AUBURN.—Your best plan to prevent prints sticking to ferrotype plates is to wax the plate; make a solution of—

Yellow wax	12 grains.
Resin	36 "
Ether or benzole	2 oz.

Pour a little of this on to plate, rub all over with a pad of linen, then polish. Prints squeegeed on to this will not stick.

E. W. MALE.—Notwithstanding the addition of thymol and alcohol, the emulsion will not keep longer than a fortnight; the preservative you use will not affect the permanency of prints. Any go'd bath may be used, or the sulphocyanide; bath with the latter, washing prior to toning is not necessary, but necessary with all others. The ordinary strength fixing bath.

HIBERNICUS.—A "hard" print is one in which there are extreme contrasts, that is to say, the high lights very white and the shadows very dark. You have no means practically of compensating for under or over exposure with the developer you use. We should strongly recommend you to try the compound eikonogen and hydroquinone formula. May 8, p. 330. 1. Under-printed and over-toned; print this negative in a very weak light under tissue paper. 2. The camera was not level, hence the drunken house; otherwise good. 3. Too hard a print; the apron is entirely without detail. 4. Good. 5. You wanted a long focus lens for this view. 6. You were a great deal too far off to make a picture out of this; half an inch of foreground might be cut off with advantage.

VERNON.—1. Very fair; would be improved if the face were retouched or worked on the back of the negative with a stump, so as to lighten it. 2. Good, but over-toned. 3. Fair, again over-toned. 4. Good. 5. Poor, over-printed and over-toned. You carry your toning considerably further than is necessary, and the result is anything but pleasing.

W. P. W. WISEMAN.—You will find a reference to "A Photographer's Clock" in an article by Silverpen, on "View Making and View Finding," which appeared in the AMATEUR PHOTOGRAPHER of May 24th, 1889.

E. B. WAIN.—Many thanks for your letter and enclosure; you will see we make use of both.

W. F. SHADDEX.—Thank you for information re Ilfracombe, which we have noted in this issue.

W. T. BARTON.—It is quite possible that the lens is more rapid than you think; it is a very fine instrument, and cannot be beaten. The dark-room light you use we know to be quite safe. The colour-sensitive plates are good all-round plates. The shutter is perfectly safe. Send us some more plates on.

CENTRAL PROVINCES (India).—Alum will decompose hypo, giving rise to sulphur compounds, which would cause the disease you complain of. Wash more between fixing and alum baths. You are still eligible for monthly competitions. We prefer prints mounted, but in your case unmounted prints may be sent. Always pleased to help you.

A. C. H.—We have a letter for you, but have mislaid your address. Kindly send same to us.

A. RUSSELL.—No one is allowed to photograph either in the Crystal Palace or the grounds, the sole rights having been let to Messrs. Negretti and Zambra.

ADA TROSON.—Copies of labels are to be found in the AMATEUR PHOTOGRAPHER of May 8th. Any of these can be obtained of Hinton and Co., Bedford Street, Strand, W.C.

J. E. THORBURN.—The camera named is well worth the money, and very simple in its action.

PEN.—The answers in "Quarterly Examinations" were no doubt the result of carefully studying the columns of the AMATEUR PHOTOGRAPHER, but the actual answers could not, of course, be taken from our columns. Syllabus shall be sent you in a post or two.

W. BIRCH.—We have no index for vol. ii. *Photographic Societies' Reporter*.

REV. T. PERKINS.—Duly received; will use at an early date.

ESPAÑA.—See "Sandown," July 3rd, 1891. Dark-room at Ryde, see 3d. No fault in the print; the white or silvery appearance is the light coming through the trees.

Sale and Exchange.

CHARGE.—Twelve words or less for Fourpence. Every additional three words, one penny. The name and address of the sender must be paid for. (A single figure, or group of figures undivided by letter, space, stop, or words, counts as one word; compound words count as two words.)

Backgrounds.—Two interior backgrounds, flatted oils, on linen and roller, new, 8 ft. by 7 ft. 4 in.; 12s. 6d. each; photographs forwarded.—Hare, Sutton, Surrey.

Cameras, Lenses, etc.—Quarter-plate camera (by Underwood), splendidly made instrument, complete, single lens, two dark-slides, shutter, tripod, leather case; cost £4 15s. two months ago; price £4; or best offer; approval.—Cunliffe, Priory, Broughton, Manchester.

Lancaster's half-plate Instanto (old pattern), with single lens and shutter, and two wooden slides and view-finder, 42s.; also Ideal hand-camera for 12 plates, R.R. lens, two finders, £4.—Staveley, 57, Barbican, E.C.

Lancaster's quarter-plate Instantograph 1886, rack-work lens, instantaneous shutter, and three double slides, all brass-bound; cost 69s.; what offers? Owner selling for no reason but to get half-plate set.—P. Aberly, Devonshire House, Sandgate.

Quarter-plate Eclipse camera (by Shew), six double backs, finder, tripod, in perfect condition.—Naylor, Warwick Road, Ealing.

Marion's metal miniature camera, splendid lens, shutter, dozen plates, just new; cost 24s.; cash offers.—L. Hartridge, Guernsey.

Hand Cameras, etc.—Swinden-Earp hand-camera, quarter-plate, good as new, with macintosh cover; £6.—Miss L. Ridley, Hollington, Newbury.

Talbot and Eamer's 1891 quarter plate magazine hand-camera, can be used on a tripod, with focussing screen, long-focus lens can be used, made specially for Wray's 4 by 4 lens; list price £5 12s.; sell for 60s.—Wade, 14, Aberdeen Crescent, Chatham Street, Stockport.

No. 3 Kodak camera, nearly new; price £5 5s.; with 90 unexposed films.—W. Bamford, Ivy Cottage, Oulder Hill, Bury Road, Rochdale.

Hand-camera, automatic changing, for 12 quarter-plates, rapid rectilinear lens, shutter, and finder, in perfect condition and thorough working order, all but new; price 40s.; a bargain.—A. Mercer, 16, King Street, Sparkbrook, Birmingham.

Marion's hand-camera, six bags; cost £4; price 25s. B., 59, St. Thomas Road, Finsbury Park, London.

Automatic hand-camera, quarter-plate, full-size finder, twin lenses; 45s.—Lewis, 43, The Grove, Vauxhall.

Lantern.—Marion's enlarging lantern, 6 in. condensers, portrait lens, etc., cost over £10; exchange half or whole plate camera set, by good maker, to value.—Jones, Enfield House, Uffculme, Devon.

Lenses, etc.—Ross's 5 by 4 rapid symmetrical, £3; Newman's shutter to fit same, 15s.; pair of 5 by 4 Optimus portable symmetrical, £2 15s.—E. Brightman, Lyndale, Redland Road, Bristol.

Half-plate Optimus Euryscope, f/6, good condition; 50s.—Alpha, 8, Bath Street, Brighton.

Cottage window and door, 3 ft. by 7 ft., 35s.; boat, 10s.; Dallmeyer's 10 by 8 rapid rectilinear lens, £7; Dallmeyer's wide-angle ditto, 70s.; Chambers' wide-angle rectilinear, 15 by 12, 85s.—Lewis, Photographer, 35, Broad Street, Reading.

Lens, grand rectilinear, 7 by 5, loose hood, stops f/8 to f/32, new; offers wanted near 25s.—Adams, Hatton Yard, E.C.

Whole-plate landscape lens, working at f/8, conical mount; 21s.—Setacci, 41, Waldemar Avenue, Fulham.

A 7 by 15 Optimus Euryscope, to which has been fitted Iris diaphragm, with Newman's shutter working between the combinations, £5; cost of lens, 94s. 6d.; shutter, 35s.; Iris, 15s.—Saul, 1, New Bridge, Dover.

Hockin's new whole-plate aplanatic lens; 35s.; cost 50s.—Curtis, 20, Longford Street, Regent's Park.

10 in. single lens, half-plate, 10s.; whole-plate Ashford's stand, 14s.; Kershaw shutter, hood 1½ in., 10s.—J. Brown, 31, Market Street, Newcastle-on-Tyne.

Sets.—Underwood's quarter-plate Compactum camera, lens, slide, stand; 74s.—Jones, Butcher, Aberavon.

Quarter-plate Instantograph camera, lens, tripod, double back, changing box to hold 12 plates, fit above, also instantaneous shutter, Ashton's pneumatic shutter, and sundries.—Warrall, 8, Abney Park Terrace, Stamford Hill.

Half-plate camera, extra-thick morocco, taper bellows, three mahogany double backs (new), R.R. lens, pneumatic drop-shutter, and tripod, complete; £5.—Hon. Sec., Croydon Camera Club.

Amateur, giving up photography, is desirous of selling his complete set of photographic apparatus, with which he has turned out some prize pictures. Whole-plate camera, two double dark-slides, rapid rectilinear lens, f/8, tripod, carriers, and complete set for finishing them as finished by him; price £9; seen any time by appointment at South Norwood.—Elliott, 126, Selhurst Road, South Norwood.

Camera, 5 by 4 (Marion's), stand, two lenses, shutter, burnisher, trays, dishes, scales, everything complete; £2 cash.—A. D., 15, Daleview Terrace, Parkdale Road, Plumstead.

A rare bargain. Eureka hand-camera, quarter-plate, leather-covered, horizontal and vertical finders, two levels, for instantaneous and time exposures, tripod, and solid leather case; also Rouch's best enlarging apparatus, 6 in. condenser, carrier, treble wick lamp, board, etc., Perfection candle lamp, pair scales, one dozen Eastman's 10 by 8 bromide papers, £2 worth stoppered bottles and dishes, mahogany lock-up plate box, two negative boxes to hold 100; the lot bought six weeks ago for £20; receipted account given up; take £9 10s. for lot; will not separate, nor trouble to send on approval, but will return money if not found absolutely perfect condition.—Henderson, Solicitor, Llandudno.

Half-plate 1891 Instantograph, dark-slide, tripod, and rapid rectilinear lens, equal new; only 67s. 6d.—H. Rowe, Wallbridge, Stroud, Glos.

Half McKellen's camera and 4 double slides, turntable and stand, canvas case, Ross's 9 in. and 12 in. portable symmetricals, quite new; £16; cash.—M. D., care of Watson and Sons, 313, High Holborn, W.C.

Full-plate set for sale, excellent condition, best make throughout.—Executor, Florence Villa, Portswood, Southampton.

Shutter.—Guerry flap shutter, for 7½ by 5 or smaller lens, with long tubing; 16s.—Miss L. Ridley, Hollington, Newbury.

Sundries.—Album for photographic prints, imperial folio, oblong, half-bound, 78 pages, 20 by 14, strong card, cream tint, good as new; price 25s.—A. J. Adams, Skelwith Bridge, Ambleside.

Large assortment of bottles with chemicals, glass funnels, four trays, and various sundries, to be sold for 10s.; very cheap; seen by appointment (London).—No. 185, AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.

What offers? AMATEUR PHOTOGRAPHER, three years, complete; or exchange anything useful.—A. Parkinson, 72, Hurtle Street, Burnley, Lancashire.

"Photography" annual, clean copy; post free 2s. 9d.—Tapson, 94, Howson Road, Brockley.

Tricycle.—Splendid Humber tandem tricycle, cost £33, perfect condition; exchange good photographic apparatus, or sell, a bargain, for cash.—Stradling, Cirencester.

WANTED.

Burnisher.—A burnisher for quarter or half plate. Lowest price to S. Kirkham, Carlou.

Dark Slides.—Underwood's half dark-slide, also cheap time and instantaneous shutter for 2½ hood; particulars; cash.—Holman, Penarth, Cardiff.

Hand-Cameras, etc.—Good hand-camera, in exchange 54 in. Premier bicycle, an excellent machine, balls throughout, practically good as new, or sell £5.—James R. Crowther, Marsden, Huddersfield.

Kodak, 3, ordinary or Junior.—Hummel, care of Holzapfel and Co., Newcastle.

Talmer hand-camera, good whole-plate wide-angle lens, or Dallmeyer's or Ross's new rapid single lens, whole-plate; exchange Humber tandem tricycle, cost £33, or cash.—Stradling, Cirencester.

Lens.—Wanted for half-plate camera, wide-angle rectilinear lens, best maker, four-fold tripod, and leather case to hold all.—Bennett, 16, Causeway, Cambridge.

Roll-Holder.—Half-plate Eastman roll-holder, perfect condition; particulars and lowest price.—Address, No. 187, AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.

Sets.—Whole-plate set, Exhibition or other good make, three or more double backs; state lowest price.—Worrall, 8, Abney Park Terrace, Stamford Hill, N.

Shutter. Shutter, Underwood or Thornton-Pickard time and instantaneous, to fit 2 in. hood.—F., 9, Scarboro Road, Upper Tollington Park, N.

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Note.—This is a free gift to encourage would-be amateur photographers all over the world, and cannot be continued for many months. We do it only as an advertisement to bring our goods before the public, thus virtually giving five guineas for five shillings.

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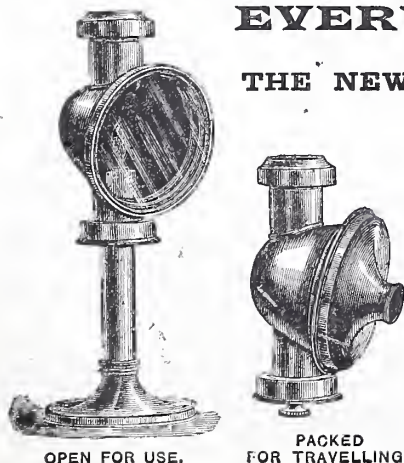
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No. 357. VOL. XIV.]

FRIDAY, AUGUST 7, 1891.

[PRICE TWOPENCE.]

OUR VIEWS.

"To hold as 'twere the mirror up to nature."—Shakespeare.

The Monday afternoon "At Home" is discontinued for the present, but will be resumed on Monday, the 7th of September.

OUR VIEWS.—Competition Rules, letter from the Secretary of the Glasgow Exhibition—Exhibition at the Camera Club—President of the 1892 Photographic Convention—Exhibition at Hackney—The Glasgow Photographic Exhibition—"The Practical Photographer"—Brussels International Congress—Practical leaders—Automatic Photography—"The Good Templar Van and Lantern"—A Photographer's Car on the Pennsylvania Railway—Prints for Criticism—Action of Light on Chloride of Silver.

LEADER.—Foregrounds.

LETTERS.—Wormald's Exposure Table—Exhibition Rules—Custom House Charges.

ARTICLES.—Chemistry for Photographers (Bothamley)—Composition and Light and Shade (Robinson)—Amateur Photographic Association: The "British Museum of Portraits"—City and Guilds of London Institute—Photographic Examinations—A Cheap Home-made Camera Case.

HOLIDAY RESORTS.—North Wales as a Field for Photography, by John A. Hodges—Grange-over-Sands.

DARK ROOMS.

SOCIETIES' MEETINGS.—Richmond—Woolwich and District.

EDITORIAL DEPARTMENT.—All Literary Contributions, Queries and Answers, Photographs for competition or Criticism, Books or apparatus for Notice or Review are to be addressed to the EDITOR, AMATEUR PHOTOGRAPHER, 1, CREED LANE, LUDGATE HILL, LONDON, E.C. (All Communications should reach the Editor on Tuesday.)

TRADE ADVERTISEMENTS are received up to Tuesday morning.

TERMS OF SUBSCRIPTION—

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POSTAL UNION	6s. 6d.....	13s. 10d.
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PUBLISHING DEPARTMENT.—All letters containing Subscriptions, Orders, Remittances, SALE AND EXCHANGE Advertisements, or other business matters for the AMATEUR PHOTOGRAPHER are to be addressed to the Publishers, HAZELL, WATSON, AND VINEY, LD., 1, CREED LANE, LUDGATE HILL, LONDON, E.C. (SALE AND EXCHANGE Advertisements, at the charge of Three Words for One Penny, can be received as late as WEDNESDAY MORNING.)

"Amateur Photographer" 1891 Lantern Slide Competition (Fourth Year).—Prizes: Gold, Silver, and Bronze Medals, and Certificates in each class. Competitors to enter only one class; every competitor to contribute ten slides, and a "lantern slide portrait" of him or her self.

CLASS I.—Landscape, Sea Pieces, and River Scenery, with or without figures.

CLASS II.—Portraiture and Figure Studies, to include in-door or out-door pictures.

CLASS III.—Architecture, Interior or Exterior.

CLASS IV.—The Fine Arts, which may include copies of Pictures, Engravings, Sculpture, Art Metal Work, China, Bric-a-Brac, etc.

NOTE.—Every Competitor must send descriptive Notes.

Past prize-winners will be awarded "Niepce" or progressive medals, should they win a medal of the same value as that which they have been awarded in past Lantern Slide Competitions.

All slides must be received on or before the 30th September, 1891.

RULES, CONDITIONS, AND ENTRY FORMS will be forwarded on receipt of stamped addressed envelope. The application should be endorsed, "LANTERN SLIDE COMPETITION," Editor, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C.

THE letter published last week on "Competition Rules" has brought us a reply from Mr. W. Goodwin, the Hon. Secretary of the Glasgow Photographic Exhibition Committee. He takes exception to our remarks upon sets of four, but those having experience in judging photographs will, we are sure, bear out our statements as to the frequent inequality of "sets of four." The prize, we contend, should be, except in most exceptional cases, given for one photograph. We shall be pleased to hear the views of others upon the question.

ALL the members of the Camera Club should take care to see the photographs now on exhibition by some of the best workers on the Continent. Those who are not members can obtain cards of admission upon application to Mr. Geo. Davison, the Hon. Secretary. The collection includes many photographs by the Countess Loredana da Porto-Bonin, shown at Liverpool, and one of which adorns the last number of the *Photographic Quarterly*; some most admirable work by Prince Ruffe, which in lighting and composition far surpasses the usual run of work in this country, notably, a splendid head, which might be a copy of one of Rubens' paintings; a Virgin and Child in the lowly stable at Bethlehem, with many others, thought out with much care. These are a revelation as to the capabilities of photography. The photographs by Herr Dreesen, of Flensburg, are worth close attention, in addition to which some fine work is shown by Herr C. Scolik. As a whole, they are the most painter-like photographs that we have seen, and are almost entirely figure studies.

THE Hon. Secretary of the Photographic Convention of the United Kingdom, Mr. F. P. Cembrano, advises us that "at a council meeting held on the 29th ult., Mr. George Davison was elected President of the Convention for 1892."

THE Hackney Photographic Society started well, has an excellent, hardworking Secretary, an energetic working Council, and publishes a good record up to date. We understand that it has been determined to hold an exhibition on September 23rd and 24th, in the Morley Large Hall, Hackney. It has been the practice of the Society to hold an exhibition of members' work, but this year there will be an open class and an exhibition of apparatus. We notice there is to be no sub-division of classes, the medals going to the best picture irrespective of subject. The Hon. Secretary, Mr. W. Fenton Jones, 6, Victoria Street, King Edward Road, Hackney, N.E., will give further particulars.

MANY of our readers will be glad to know that photographs for the Glasgow Exhibition can be received up to the 22nd inst. We understand that the opening conversation has been fixed for the evening of the 1st of September, the Lord Provost having consented to be present. Photographs are coming in very satisfactorily, and there is no doubt that Glasgow will score a big success.

SINCE the AMATEUR PHOTOGRAPHER was first issued and completed the trinity of the photographic journals, several competitors for public favour have come forward; some are to-day worthy competitors of the trinity, others have passed away. No photographic journal has shown more energy than the *Practical Photographer*; it is well turned out and smartly edited by Mr. H. Snowden Ward, is published and issued for the trade, and does not pretend to serve two masters, the professional and the amateur photographer, although from its pages the amateur can and does learn much that is new and useful. The "Summer Double Number" is a sort of prize packet, and certainly contains one photographic curio, which alone is worth the humble two pennies asked for it, namely the reproduction of a "Niepceotype" taken in 1824. The group of "Fathers of Photography" is another interesting illustration; and the two studies by Harold Baker, of Birmingham, will teach the amateur something in posing and lighting. Every word in the little book is readable and free from personalities, which too often spoil the pages of some of the younger branches of photographic journalism.

WE have received from a correspondent in Brussels, a note to the effect that the photographic exhibition in connection with the International Congress was recently opened, and will, he believes, remain open till the end of September. Our correspondent states that though the bulk of the exhibits are Belgian work, England is well represented by Colls, Hendrey, Flather, Cembrano, Kenworthy, Pattison, Gibson, and Lyd. Sawyer, and in enlargements by Morgan and Kidd, Window and Grove, and Werner. Some of our readers will doubtless be passing through Brussels during this and next month, and they should not fail to pay this exhibition a visit.

WE propose in the coming months to give short practical leaders upon such points as may be of general interest to our readers, and for the fulfilment of this programme we shall be pleased to receive suggestions of subjects upon which we may be able to throw any light, and would particularly ask that when a subject is suggested the specially doubtful points may be indicated.

A MEETING of the shareholders of the Automatic Photograph (Foreign and Colonial) Company was held last week with closed doors. *Money*, commenting upon this company's and the parent company's prospects, says:—

"With regard to the invention itself, there appears to be no doubt that when the machines are properly constructed they will do all that is claimed for them. The machines that have been issued by the English company are apparently not properly constructed, for while they will take pennies always, they only take photographs—sometimes. Even when on their best behaviour they require the services of an attendant, and we need not say that to class a machine which will only work under skilled supervision as 'automatic' is something of a misnomer. This is a matter upon which explanations will no doubt be required at the forthcoming meeting, and we should imagine that attention would also be directed to the question of what has become of the large amount of capital which was subscribed, and of which apparently there are the merest vestiges remaining. The position is emphatically one which calls for united action on the part of shareholders, and we are glad to note that Messrs. Dalton, Miller and Company, who represent a large stake in the enterprise, have taken the matter up, and are endeavour-

ing to organise a much-needed opposition to the board. There are several points to which we would invite the careful attention of those who are endeavouring to rehabilitate the fortunes of these companies. The first of these is that MM. Sacco and Cheron the inventors of the machine and process, are not satisfied with the machines which have been issued by the English company, and that they made a formal proposal to the board to the effect that they were prepared, at a cost of £1 per machine, to put them into thorough working order. For reasons best known to themselves, the directors failed to avail themselves of this offer, and it is only now at the eleventh hour that they have signified their willingness to place three machines at the disposal of MM. Sacco and Cheron. Why was not this done long since? Another point to which we would direct attention is the contract existing with one of the directors, Mr. Ladislav Nievsky, for supplying the plaque and other materials (by the way, what are the other materials?) at a cost of one halfpenny per photograph. This, in the opinion of those best qualified to judge, is a very extravagant contract, and is absolutely fatal to the success of the company. It is obvious that if one halfpenny is spent on the materials for each photograph, the cost of the machines, repairs, and working expenses will more than absorb the remaining halfpenny. In other words, it is quite impossible to earn a profit while this contract exists. Then, again, the charge of £30 for machines which cannot be kept in working order is extremely excessive, and if the company is to be put on a sound financial basis it is obvious that this contract must also be rescinded. It will have to be understood that a public company is not a philanthropic institution. While these contracts existed we are not surprised to learn that the business of the company has only been carried on at a loss of £150 per week, and that the cash assets are reduced almost to vanishing point."

IN the *Optical and Magic Lantern Journal* for this month an interesting illustrated article on "The Good Templar Van and Lantern" is given. This "van" is run by Mr. and Mrs. Fisk, who at twilight give lectures upon temperance, and show series of slides illustrating Good Templar stories, highly delighting large village audiences. Mr. Joseph Malins, of Good Templar Buildings, Edmund Street, Birmingham, will be glad of help, and will be specially thankful for slides to illustrate temperance stories.

THE *Engineer* states that "a photographer's car has been added to the rolling stock of the Pennsylvania Railroad Company, fitted with a dark-room and all the necessary appliances. The work to be done by this car, says *Engineering News*, will be a photographic survey of the country bordering the line of the road, under the general charge of Mr. W. H. Rau. The 'survey' will be mainly in the line of the picturesque." When will any English railway company be enterprising enough to take such work in hand?

WE should be much obliged to those of our readers who send us prints for criticism if they would enclose a stamped directed envelope for the return of the same, when they want the prints back. We receive every week a large number of prints, and it entails considerable labour upon our staff to have to search, a month or two after, through letters and prints for a particular set which we have to guess at as regards ownership. We have no desire to retain any prints, but unless we have definite instructions sent with the prints, they are all classed together till the periodical sorting for our hospital albums.

WE hope to be able to publish next week the translation of a note on "The Action of Light on Chloride of Silver," read by M. Guntz, at the Académie des Sciences of Paris. This scientist, as we have already noted, has proved the existence of the subhaloids of silver. The article is unfortunately crowded out this week.

WE much regret that, owing to the holidays, we are compelled to hold Mr. Wall's article, "Photographic Procedure," this week, as the blocks necessary to illustrate it are not ready.

WE must heartily congratulate Mr. Arthur J. Melhuish, the Hon. Secretary of the Amateur Photographic Association, upon the success which has attended his efforts as photographer in forming a British Museum of portraits. Last Saturday the Council of the Association gave a banquet and private view, which were attended by many distinguished photographers, including the veteran, Mr. James Glaisher, F.R.S. Already there are in the Art Department at the South Kensington Museum nearly 200 excellent permanent carbon portraits of England's "men of light and leading." Almost as many (all taken by Mr. Melhuish) were exhibited at the private view. The whole collection is most representative, and will be of increasing interest and value in succeeding years. One may see politicians of the day in the portraits of the Premier and Mr. Gladstone; scientific discoverers like Sir William Grove and Sir William Thomson; authors like Sir M. Monier-Williams and Mr. John Morley, and many others who have written their names in the book of fame. This useful work on the part of the Amateur Photographic Association deserves cordial and national gratitude.

FOREGROUNDS.

IF it is possible to form any opinion of the prevailing fault in amateur work from the number of prints we have to examine, we should say that want of care and attention to the foregrounds, and the inclusion of too great an amount of subject on the plate, are the main points of failure. It is no uncommon thing for us to have to criticise prints which have merely a central line of trees and a couple of inches of grass or otherwise unbroken expanse, which contains no interest or object to break it up.

There are few prints which are actually ready to be mounted as they come from the printing frame, few that will not be improved by a judicious use of the knife or scissors; and many a perfect picture can be made by cutting down a larger one. It is our habit, when trimming a print from one of our own negatives, to place upon the print three or four pieces of white card, and these are shifted about till the resulting print, no matter what size it is, satisfies us that the composition is more pleasing. It is quite possible, by careful selection and choice of the point of view, to obtain pictures which will require no trimming down, but, on the other hand, it is rarely that a print cannot be improved by judicious use of the knife.

Perhaps it would be arrogant on our part to lay down the dictum that the foreground is of equal importance to the background, but personally we certainly think it is.

The old portrait painters considered the background one of the leading points in the picture, and we thus consider the foreground in landscape work. Of what materials to make use we cannot, of course, lay down special rules for each subject, but taking an instance of outdoor work on Monday last, we will point out how, by a simple little device, we obtained what is now a pleasing picture. The friend we were working with wanted a view of a long stretch of fields, with the Alexandra Palace in the distance; midway, the New River, and a group of boys fishing, broke up the expanse, and on the opposite side a group of two or three horses and a young foal, resting in the shade of some fine elms, gave quite sufficient interest. On the other side, how-

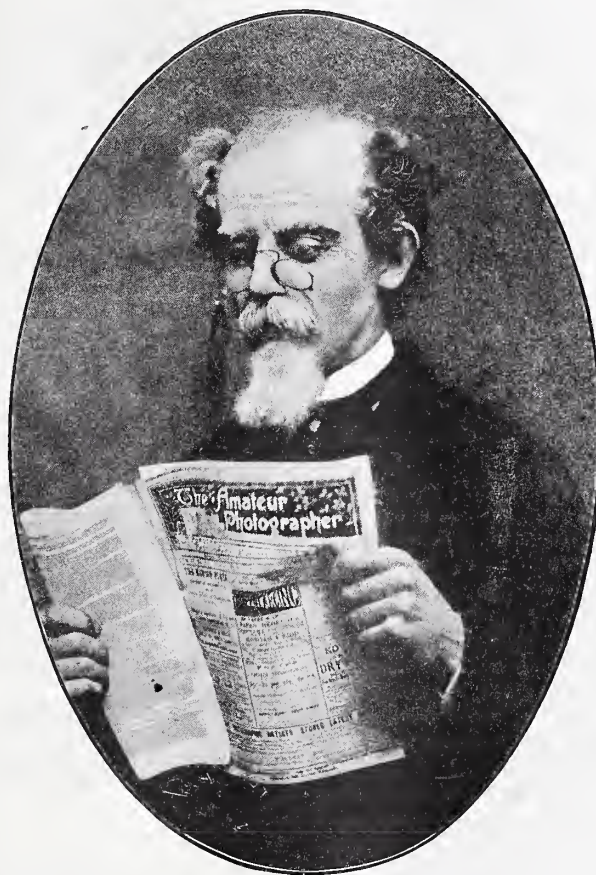
ever, we had an expanse of grass, unbroken by any object of interest—all was plain unbroken grass. Now, by shifting the camera about half an inch round, and by a little exertion, we managed to haul a big iron horse roller just into the foreground; this was quite sufficient to break up the grass, and throw the distance back into its proper place. Thus in almost every view we may find some object to relieve the foreground.

Much may be learnt from the works of such masters as Robinson, Gale, etc., and we can do no better than draw our readers' attention to the following extract from "Pictorial Effect in Photography," by the first of the above-named masters:—"How often do photographers travel over miles of country without finding anything they consider worthy of their attention, although, perhaps, exquisite subjects may exist at every turn of the road. The art of photography has arrived at a sufficient state of perfection in its own way to prevent us having any fear in acknowledging that it is not possessed of unlimited power, that the sublime cannot be reached by it, and that its power is greatest when it attempts the simplest things. But if it is not the mountain that it can represent best, what art can equal it in its representation of the molehill? And for this reason I conclude my hints on landscape with an illustration of the class of simple subjects for the representation of which the art is pre-eminent. The illustration will show how a basket, a stone, a log of wood, a barrel—all or any of these—may be made valuable when a foreground presents nothing of special interest in itself, and how, by their presence, they at once give tenderness to the distance and space to the picture."

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Woolwich and District.—An ordinary meeting of the above society was held on the 28th ult., Mr. Kemp in the chair. It was arranged that the next excursion be to Rochester on Saturday, August 15th. Members are requested to meet at the Arsenal station at 2.30.

"AMATEUR PHOTOGRAPHER" COMPETITION PICTURES.



WRINKLES, OLD AND NEW.

By GEORGE G. WARD.

Letters to the Editor.

EXPOSURE—WORMALD'S EXPOSURE TABLES.

SIR,—In your issue of July 31st, "Hibernicus" asks why, in the table of sensitometer numbers, on page 39 of my "Practical Index of Photographic Exposure," it says that "sensitometer No. 19 may indicate 12 times rapidity of wet plate," whilst in the table of rapidity of plates it gives Ilford ordinary as 18 to 19 sensitometer number, and of 30 times rapidity. It is evident that "Hibernicus" has not read the book, for if he had done so he would have found the explanation he apparently seeks. In the "Appendix on Sensitometer Numbers and the Rapidity of Plates" it is plainly stated that the *table of sensitometer numbers* there given is as approved by Mr. Warnerke, whilst the information in the *plate table* is as supplied by the *respective plate makers* in each case.

The moral of this disagreement between plate makers' "number of times," and the sensitometer ratios, is that sensitometer numbers are entirely unreliable as a means of estimating the relative rapidity of plates; this is pointed out in my book, and if "Hibernicus" will refer to the sixth edition of the "Index," he will find that the Britannia Works Co. and a few other plate makers are giving up stating sensitometer numbers, preferring only to state the "number of times." This is the only satisfactory way of estimating relative and actual rapidity, and when all plate makers unite to express the speed of their plates by marking them, on the outside of their boxes, as *requiring so many times the exposure given by a mutually adopted set of exposure tables*, the greatest difficulty in the accurate calculation of exposure will have been removed, and any amateur on purchasing plates of a brand new to him will then be able to expose them with approximate correctness, without having first to experiment to ascertain their rapidity.

* The following is quoted from the book itself:—

"In the plate table to be found at the end of these remarks, an attempt has been made to assist the photographer with a list of the various negative plates in the market, giving the rapidities and sensitometer numbers, as quoted by their respective makers.

"It has, however, been found impossible to make the list as complete as was desired, nor can the author in any sense guarantee or indorse the information it contains; it must not be considered a comparative statement of the speeds of the various plates, but merely a record of the maker's own estimate, in each case, and the photographer can confirm or check the figures given, by comparing his own experience of the plate of his choice with the statements made on its behalf. It is only fair to point out that the means at the disposal of the makers to reliably estimate and express the rapidity of a plate are far from satisfactory.

"Unfortunately, there is no authoritative and universal standard by which to measure the actual, or perhaps even the relative, rapidity of gelatine plates.

"The method of indication by comparison with a wet plate is probably the best in theory that could be desired; expressed in terms of so many times (20, 30, 60 times, etc.) the actual as well as comparative speed would seem to be capable of being clearly represented, but the speed of a wet plate itself depends on items that have no fixed or recognised standard, viz., the collodion to be used, the bath, and the developer; and until there is an authoritative basis of estimate it will perhaps be impossible to obtain positively reliable information expressed in terms of unequivocal meaning. The sensitometer is another means of indication; but even if the instrument could in all cases be depended upon, it is still necessary (as now used) in order to understand its meaning, to have a scale of ratios (such as 'number of times') in conjunction with it, inasmuch as sensitometer numbers bear no sort of ratio to each other that will indicate relative rapidity.

"In using the Practical Index (or any other guide on exposure) the above considerations must be borne in mind, and as far as possible care should be taken that the plate in use with the tables is of the 'number of times' it is represented to be.

"Finally, the tables themselves will form the best test of rapidity: thus, a 30 times plate may be proved to be so by its being found to work satisfactorily with the Index Tables, and similarly any other rapidity may be approximately tested, and its 'number of times' determined. And so soon as plate-makers adopt the 'Index Tables' as the basis on which to indicate the speed of their plates in 'numbers of times,' there will be no necessity to use sensitometers, nor to perpetuate the indefiniteness and confusion caused by sensitometer numbers."

My attention has also been drawn to another question by "Hibernicus" (in AMATEUR PHOTOGRAPHER, July 24th), asking why, when he exposes "30 times plates" in accordance with the tables he fails to get satisfactory results.

The answer to this he alone can supply, for, in view of the universal success of others with the tables, it is evident that he has misapprehended one or more of the necessary factors—either he did not use "30 times" plates, or guessed the seconds instead of accurately timing them, or did not properly estimate the light at the time (the indefinite expression "diffused light" is not used in the tables), or exposed on a view near the seashore, or, more probably still, has marked his stops wrongly, or used a different one from the one he imagined he was using. We are all liable to mistakes, and he is not likely to be exempt from the common proneness in this respect, especially as he appears to be the veriest tyro in the art of photography, to judge from your "editorial answers" (to his enquiries) on page 89 of your last issue.

In contradiction to his statements, I am continually receiving voluntary testimony that the tables, when used with brains, are as correct as can be desired. In fact, I have received hundreds of such approving testimonials, and not one letter expressing a contrary opinion during the whole time the book (now in its sixth thousand) has been before the public. I enclose you a print of testimonials recently received, which you will see confirm all the favourable reviews of the book that you have so kindly expressed from time to time.—Yours faithfully,

A. R. WORMALD.

Sutton, Surrey, August 1st, 1892.

* * * *

EXHIBITION RULES.

SIR,—The difficulty in which "Puzzled" finds himself seems to be due, not so much to the "set of four" as to the existence of a Champion Class. To carry out the principle of that class he should regard the picture in question as promoted, with its three companions, to Championship, and should give some other picture a chance in the new set.

In the editorial paragraph an important argument in favour of sets of three or four is overlooked; that is, that awards are thus gained by good workers who deserve them. The veriest duffer occasionally gets one good picture in spite of himself. Should he be enabled to send this round the Exhibitions, and carry off medals with it?

The editorial remark that "it is extremely difficult—in fact almost impossible—for the average exhibitor to show four pictures of equal merit" seems scarcely complimentary to the great body of amateurs. Surely the average is higher than this?

While defending our own rules, I freely admit that greater uniformity and simplicity in the conditions of exhibitions would be very desirable.

Leading exhibitors must feel the frequency of exhibitions a severe tax upon them, but their patience does not seem to be quite exhausted yet, and I have every reason to believe that well-known names will be plentiful in our catalogue.—I am, yours, etc.,

WM. GOODWIN,
(Hon. Sec. Glasgow Exhibition).

* * * *

CUSTOM HOUSE CHARGES.

SIR,—Would your correspondent kindly state the name of the port in the United Kingdom the package of Cristallo developer etc., arrived at; where your correspondent saw the "inspector of

EXHIBITIONS.

SOCIETY.	Place.	Open.	Close.	Last date for sending in.	Secretary.
Phot. Soc:	Cardiff.	Aug. 12.	Aug. 26.	Aug. 7.	{ G. H. Bedford, } 127, Bute Road, Cardiff. T. H. Faulks, }
Royal Cornwall Polytechnic...	Falmouth.	Aug. 25.	Aug. 29.	Aug. 11.	E. Kitto, The Observatory, Falmouth.
Exhibition Committee ...	Amsterdam.	Sept. —.	Oct. —.	Sept. 1.	Chr. J. Schuyver, P. C. Hooftstraat 72, Amsterdam.
Am. Phot. Soc:	Glasgow.	Sept. 1.	Oct. 3.	Aug. 22.	Wm. Goodwin, 3, Lynedoch Street, Glasgow.
Phot. Soc:	Hackney.	Sept. 23.	Sept. 24.	.....	W. Fenton Jones, 6, Victoria Street, Hackney, N.E.
Phot. Soc:	London.	Sept. 28.	Nov. 12.	Sept. 16.	H. A. Lawrence, 50, Great Russell Street, London, W.C.
Art Gallery Committee ...	Leeds.	Dec. 7.	Jan 9.	Nov. 27.	Geo. Birkett, Municipal Art Gallery, Leeds.

foreign photographic goods," and whether the charge of 16s. 9d. was made by the English or French Customs officials?

I should say that it is an export charge imposed by the French Customs authorities, or if charged by the English Customs the quantity (size of bottles not stated) must have been large, and containing spirits, on which there is a duty of 10s. 10d. per proof gallon, not on the mixture, or preparation, but on the actual amount of spirit the mixture contains, which is ascertained by distillation, a small portion of the mixture being taken for that purpose.—Yours, etc.,
LEX.

Liverpool, August 3rd, 1891.

Chemistry for Photographers.

By C. H. BOTHAMLEY, F.I.C., F.C.S.

(Continued for page 462.)

THE oxides of the halogens are few in number, and, with one exception, are very unstable; the oxyacids are more numerous and important. The only oxides of the halogens that are definitely known are *chlorine monoxide*, Cl_2O , *chlorine peroxide* ClO_2 , and *iodine pentoxide*, I_2O_5 .

Chlorine monoxide is obtained by the action of chlorine gas on precipitated mercuric oxide. It is an orange-yellow gas, with a smell recalling that of chlorine, yet different from it; it is a powerful oxidising agent, and is very liable to decompose explosively, especially if heated. By the action of a freezing mixture it can be condensed to a dark-yellow liquid. Chlorine monoxide dissolves in water, forming hypochlorous acid, and hence the oxide is often called *hypochlorous anhydride*, $\text{Cl}_2 + \text{H}_2\text{O} = 2\text{HClO}$.

Chlorine peroxide is a deep yellow, very explosive gas, formed by the action of strong sulphuric acid on potassium chlorate.

EXPERIMENT 152.—Into a large test tube put a small crystal of potassium chlorate, add a few drops of strong sulphuric acid, and heat gently; loud sharp cracks will be heard, owing to the decomposition of the chlorine peroxide.

When passed into solutions of alkalis, chlorine peroxide yields a mixture of a chlorate, and a chlorite, $2\text{ClO}_2 + 2\text{KOH} = \text{KClO}_3 + \text{KClO}_2 + \text{H}_2\text{O}$.

Euchlorine is a yellow gas with a peculiar smell, and is obtained by the action of hydrochloric acid on potassium chlorate. It is a mixture of free chlorine and chlorine peroxide in proportions that vary with the concentration of the acid, the temperature, and the relative proportions of acid and chlorate. Euchlorine is a powerful oxidising and bleaching agent.

Iodine pentoxide is obtained by heating iodic acid at 200° . It is a white solid, which if heated to 300° decomposes into iodine and oxygen. It dissolves in water, forming iodic acid, and hence is often called *iodic anhydride*.

The oxyacids of chlorine are four in number.

Hypochlorous acid, HClO , is not known in the pure state, but an aqueous solution of it is obtained by shaking chlorine water with precipitated mercuric oxide; by passing carbon dioxide into a dilute solution of bleaching powder and slowly distilling the liquid; by the action of light on dilute chlorine water, $\text{H}_2\text{O} + \text{Cl}_2 = \text{HCl} + \text{HClO}$. Strong solutions are yellow, but dilute solutions are colourless; they have a peculiar characteristic smell, and are powerful oxidising and bleaching agents, since the hypochlorous acid readily parts with its oxygen, thus $\text{HClO} = \text{HCl} + \text{O}$. Strong solutions decompose spontaneously in this manner, and the decomposition may become explosive if the liquid is heated.

Hypochlorites, or salts of hypochlorous acid, are obtained by the direct action of the acid on bases, or, together with chlorides, by the action of chlorine gas on cold dilute solutions of hydroxides; for example, $2\text{NaOH} + \text{Cl}_2 = \text{NaClO} + \text{NaCl} + \text{H}_2\text{O}$, and $2\text{Ca}(\text{OH})_2 + 2\text{Cl}_2 = \text{Ca}(\text{ClO})_2 + \text{CaCl}_2 +$

$2\text{H}_2\text{O}$. Very few hypochlorites have been obtained in a pure solid condition; in solution they are powerful oxidising and chlorinating agents (converting metallic silver, for instance, into silver chloride), and they readily change into a mixture of chloride and chlorate, especially when heated, thus $3\text{KClO} = 2\text{KCl} + \text{KClO}_3$. They are very unstable and are decomposed even by carbonic acid with liberation of hypochlorous acid.

EXPERIMENT 153.—To a solution of a lead salt add a solution of bleaching powder or any hypochlorite; a dark brown precipitate of lead peroxide, $\text{PbO}(\text{OH})_2$, is formed. Treat a solution of a manganese salt in the same way; hydrated manganese peroxide will be precipitated.

Bleaching powder is obtained by the action of chlorine gas on dry slaked lime, $\text{Ca}(\text{OH})_2$. It consists chiefly of the compound CaCl_2O , with some calcium hydroxide $\text{Ca}(\text{OH})_2$; when treated with water it is decomposed, thus $2\text{CaCl}_2\text{O} + \text{water} = \text{Ca}(\text{ClO})_2 + \text{CaCl}_2 + \text{water}$, and the solution is a mixture of calcium hypochlorite and calcium chloride. When a dilute solution is mixed with dilute acids, hypochlorous acid is set free. If a piece of cloth is alternately dipped into a very weak solution of bleaching powder and a very dilute acid, hypochlorous acid is liberated in the fibre of the cloth and the latter is bleached. This method is applied on a large scale not only to cloth but also to yarn.

From bleaching powder, sodium or potassium hypochlorite can be obtained by adding a solution of sodium or potassium carbonate to a solution of bleaching powder until a precipitate no longer forms, allowing the precipitate to settle and decanting or filtering off the clear liquid $\text{CaCl}_2 + \text{Ca}(\text{ClO})_2 + 2\text{K}_2\text{CO}_3 = 2\text{KCl} + 2\text{KClO} + 2\text{CaCO}_3$. The mixture of potassium chloride and hypochlorite obtained in this way is called *eau de javelle*.

Chlorous acid, HClO_2 , is very rarely met with; it is a powerful oxidising agent, and its salts, the *chlorites*, are unstable.

Chloric acid, HClO_3 , and its salts are much more important. The free acid is obtained by carefully decomposing the barium salt with the exact quantity of sulphuric acid, $\text{Ba}(\text{ClO}_3)_2 + \text{H}_2\text{SO}_4 = 2\text{HClO}_3 + \text{BaSO}_4$. When the insoluble barium sulphate has settled, the clear liquid is poured off and concentrated. The strongest solution that can be obtained contains 40 per cent. of HClO_3 ; it is very acid, highly corrosive, and a very powerful oxidising agent. When the strongest acid is dropped on wood or paper, the latter usually takes fire.

Chlorates are obtained, together with chlorides, by the action of chlorine gas on hot and concentrated solutions of alkalis (compare hypochlorites), $6\text{KHO} + 3\text{Cl}_2 = \text{KClO}_3 + 5\text{KCl} + 3\text{H}_2\text{O}$. If now the solution is concentrated, the chlorate crystallises first, whilst the chloride remains in solution. On a large scale, calcium chlorate is made by the action of chlorine on slaked lime suspended in boiling water, and after the chlorate has been separated from the chloride, the former is decomposed by potassium carbonate or sulphate; thus $\text{Ca}(\text{ClO}_3)_2 + \text{K}_2\text{SO}_4 = 2\text{KClO}_3 + \text{CaSO}_4$. All the chlorates are soluble in water; when heated in the solid state they give off oxygen and leave a residue of chloride; thus $\text{KClO} = \text{KCl} + \text{O}_2$. In the case of the chlorates of sodium, potassium, etc., oxygen and a perchlorate are first formed, and on further heating the perchlorate decomposes into oxygen and a chloride. When chlorates are mixed with any oxidisable substance, such as organic matter, sulphur, or a sulphide, and heated, violent oxidation takes place, and the evolution of gas (CO_2 , or SO_2) may be so rapid that an explosion ensues.

EXPERIMENT 154.—Powder separately small quantities of charcoal and potassium chlorate, mix them by shaking together on a piece of paper, and heat a small quantity of

the mixture on the end of a steel spatula or an old knife; rapid combustion of the charcoal will take place.

EXPERIMENT 155.—Rub together in a mortar *very small* quantities of sulphur and potassium chlorate; loud, sharp cracks will be heard.

These facts show the great importance of making sure of the purity of the potassium chlorate and manganese peroxide used for the preparation of oxygen.

Perchloric acid, HClO_4 , is obtained by the action of heat on chloric acid, or by distilling potassium perchlorate with strong sulphuric acid. It is a yellowish, strongly acid, highly corrosive liquid, with a great attraction for water. It is a very powerful oxidising agent, and when it is dropped upon wood, paper, etc., the latter take fire with explosive violence. The pure acid decomposes spontaneously even in the dark, but a solution remains unaltered.

Perchlorates are soluble in water, the potassium salt being one of the least soluble. They are decomposed by heat into oxygen and a chloride, but a higher temperature is required than in the case of chlorates. Perchlorates are not decomposed by hydrochloric acid, and they yield no chlorine peroxide when heated with sulphuric acid.

Hypobromous acid and the *hypobromites* are obtained in the same way as hypochlorous acid and the hypochlorites, using bromine in place of chlorine, and they are very similar in their properties. Sodium hypobromite, for instance, is formed by adding bromine to a dilute solution of caustic soda, $2\text{NaOH} + \text{Br}_2 = \text{NaBrO} + \text{NaBr} + \text{H}_2\text{O}$. It is a useful oxidising agent, but gradually changes into bromide and bromate, the change being accelerated by heat.

Bromic acid and *bromates* are respectively very similar to chloric acid and chlorates, but are more easily decomposed. Perbromic acid and perbromates have not yet been obtained.

Iodic acid, HIO_3 , is a white crystalline solid, easily soluble in water, obtained by oxidising iodine with strong nitric acid, or with a strong mixture of nitric acid and potassium chlorate. When brought in contact with sulphur dioxide, sulphuretted hydrogen, or hydriodic acid, it is decomposed with liberation of iodine, and the latter can be detected by the starch test. Iodic acid is therefore used as one of the tests for these gases.

The iodates are usually insoluble in water, and when heated they decompose into oxygen and an iodide, or into oxygen, free iodine, and a metallic oxide. Very complex iodates are formed by the combination of the normal salt with different proportions of the free acid.

Periodic acid and periodates are also known; the latter have a very complex composition.



Fallowfield's Photographic Remembrancer.—The last number of this useful publication is just to hand. We note several novelties: Cutting knives—Nameit—Photographic Printing Meter or Actinometer (Barry's patent)—The Tourists' Developing Tent (22s.), and a very serviceable Pocket Changing Bag (10s.).—A full illustrated description of the very latest and, we believe, most perfect hand-camera in the market, the "Miall." This publication is "mailed free to any part of the world" upon application to the publisher, Mr. Jonathan Fallowfield, 146, Charing Cross Road, London, W.C.

Photographs at a Bazaar.—At a bazaar held in the National Schools, Lingham Street, Stockwell, on the 3rd, 4th, and 5th inst., there was a photographic exhibition, and a photographic competition, the entries for which were divided into three classes. There were not many competitors, but the prize pictures showed excellent workmanship. There was only one entry in the enlargements class, but the competitor, Mr. F. W. Kent, was awarded a certificate for the excellence of his work. In contact prints the same competitor took the first prize with a platinum print, "Is she in Sight?" the certificate being awarded to Mr. F. W. Stephens for three charming little sepia platinotypes. In the lantern slide class, Mr. H. J. Green was awarded first prize, the certificate going to Mr. F. W. Kent, who could not take first, having been first in another class.

Composition, and Light and Shade.

Selected and arranged for the use of Photographers, from "Burnet's Essays," with Introduction and Notes.

By H. P. ROBINSON.

CHAPTER XIV.

If light, collected into a focus by means of a lens, be thrown obliquely upon a wall (fig. 28), it will explain to us one of its principal properties, upon which many artists have founded their principles of light and shade. Where the bundles of rays are collected, the light is increased in brightness; and when they become more diffused and spread out, it naturally becomes more feeble, losing itself in half-tint. In this example we have some of the most essential qualities of light as applicable to the purposes of painting. We have a principal light, which, being produced by the collecting of the rays, leaves that portion of the ground the darkest which comes in contact with it, thereby assisting its brightness. We have an innumerable variety of gradations, until the light is dissipated and lost. Some artists maintain, and justly, that every light, however small, ought to have a focus, or one part brighter than another; and as we find this to be a general law in nature, it is surely safe ground

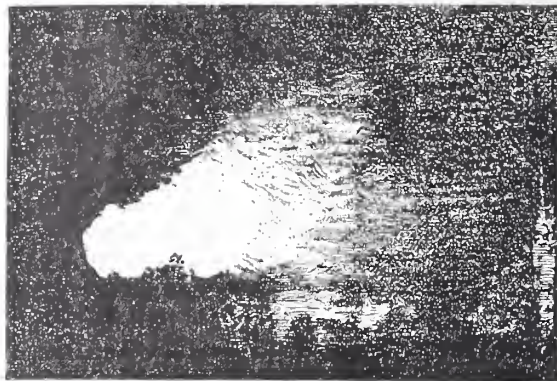


FIG. 28.

to go upon. For the same reason we ought to have one portion of a dark more decided than the rest. If these two extremes are brought in contact, we make them assist each other, one becoming brighter, and the other darker, from the effect of contrast. If they are placed at the opposite sides of the picture, we have greater breadth and a more equal balance. Let us now examine how these properties have been made use of in the management of the light and shade of a picture. If, for example, we take a head by Rembrandt, we find the principal light or focus in the upper part of the face (which he often, to render more luminous, surrounds with a black bonnet or hat, and even this he keeps of a cold tone, to give more value to the flesh); the light is then allowed to fall down on the figure, producing thereby a union and an appearance of his light giving out rays of the same hue as itself. If we follow him in the conduct of some of his larger compositions, we find the same principle adopted, whether they consist of many figures, such as the hundred-guilder print, or of few, as in the small Nativity in the National Gallery; thus rendering the most complicated compositions subservient to the simplest principles of light and shade. A few experiments on a ground of a middle tint, with a pencil filled with white, and another dipped in black, will give the student an insight into all the changes capable of being produced upon this principle.

If a diagonal line be drawn through the picture, and the extreme dark and extreme light be placed at opposite sides (fig. 29), we must of necessity have the greatest breadth of effect. If a balance or union between the two sides be wished, there is no other way but by borrowing a portion of



FIG. 29.

the one and exchanging it for a portion of the opposite; and not only may this practice be made use of for the harmony of the whole, but the light and the shade will be thus rendered more intense by the force of opposition. Now, whether the dark which is carried to the light side be very small, or very large, and *vice versa*, we have the groundwork of some of the most powerful and most natural effects in painting. If the light is placed near the horizon, as in evening skies, for example, such as it frequently is in Cuypp, we see it rising upwards until lost in middle-tint in the upper part of the picture, and the middle-tint descending into shadow by means of trees, figures, etc., thus making a sweep round the picture, and thereby affording the greatest opportunity for breadth of effect. If the two extreme points are connected by intermediate figures, so as to form but one group, we have the greatest firmness, as the light part of the group will be relieved by a dark ground, and the dark part of the group by a light ground: if we pursue the contrary practice, and place the dark part of the group on the dark ground, and the light part of the group on the light ground, we have more breadth and softness of

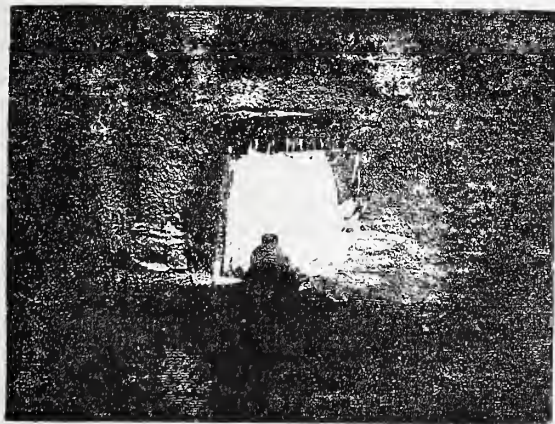


FIG. 30.

effect. There is no want of examples, either in nature or in pictures, to warrant our following either mode.

Sometimes we find the principal light in the centre of the picture gradating to the extremities with a border of dark

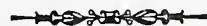
binding in the whole. (Fig. 30). By this mode the light has great brilliancy, especially if a small portion of dark is brought in contact with it. This melting of the light into shadow has been carried to great perfection by Corregio and Rembrandt, who most frequently relieved the dark side of their figures by a still darker background, which Reynolds (who has adopted this mode in so many of his works) mentions as giving a rich effect.

If this method is pursued in the management of the light on a hand, or a single head, it is equally applicable, as in a more extensive work. In the landscapes of Claude, who has often placed the sun near the centre of his compositions, we find the light managed upon the same broad principle, gradating to the sides of his canvas by means of buildings, ships, etc., with often a clump of dark trees jutting into the mass of light, thereby giving it its brilliant character, and serving at the same time to convey the dark sides into the picture. If he reminds us occasionally of Rembrandt, it arises from his great breadth of effect; if of Corregio, it is the soft union of his lights with the shadow. A few walks in the evening in the twilight, and at night in scenery where nature has an opportunity of showing her various effects, will put the student in possession of a power to unravel all her mysteries. We do not know whether Claude, Corregio, and Rembrandt were acquainted with the works of one another, but we have the most evident proofs that they were well acquainted with the principle by which nature produces her most striking effects; and a breadth of light and shade, soft and subdued tones of colour, and every requisite for forming the mind of an artist, is still to be found in the same school in which they studied.

By all artists of whatever schools, from the dreamer to the realist, Rembrandt is acknowledged to be the great master of light and shade, and he is perhaps the only painter about whom all agree, and, curiously enough, he was one of the most conventional. In everything he did there was a magical charm, due entirely to chiaroscuro. His treatment of his subjects was often mean; sometimes, especially in connection with sacred subjects, ludicrous—his spiritual characters were Dutchmen in turbans; his drawing defective, and his conception of his subject most conventional and without any reference to the event to be represented as it possibly might have happened. Notwithstanding all these defects, any one of which would have been fatal to another artist, Rembrandt redeemed everything by his consummate knowledge of composition, and especially light and shade. His themes ranged from the most sublime down to the most ignoble, and all were turned into most noble art by treatment. The range of this treatment, however, was limited. It consisted, principally, in a concentration of the light and massing of the shades, harmonised by delicate gradations. The wonderful charm of Rembrandt's pictures was not brought about, as is sometimes supposed, by the startling use of extreme darks and lights. It was by the subtle use of repeated lights in marvellous gradations that this great master worked his enchantments.

There was never a time when Rembrandt's pictures, like those of other artists, went out of fashion, and his works were never more esteemed than they are at the present time, when a fine example is always the most costly lot at Christie's, and the owner of a few good impressions of his etchings is the possessor of wealth beyond the dreams of avarice. Perhaps the greatest disrespect that has ever been done to his fame has been by photographers in giving his name to a class of their portraits which are lighted as Rembrandt never lighted a picture.

What is interesting to us here is that the use of composition and perfect light and shade covered the greatest defects, and the power of artistry alone turned the commonest dross into gold; that artistry being the result of well-defined principle.



Norway.—A correspondent writes: "Best dark-room free of charge at F. Beyer, Strandgaden 2, Bergen, Norway. Dry plates, films, sensitizing paper, photographic solutions, etc."

Amateur Photographic Association.

THIS association has been doing a good work for some years quietly and unostentatiously in the gathering together photographs of eminent persons. On Saturday last several distinguished gentlemen met the Vice-President, H.R.H. the Duke of Teck, when the Secretary of the Association, Mr. Arthur J. Melhuish, read the following short history of the work done in forming "The British Museum of Portraits":—

"The minutes of a council meeting held April 14th, 1864, Lord de Ros in the chair, contains the following entry:—'Mr. Glaisher then said that he thought the time had now come when the Council of the Amateur Photographic Association, with the Prince of Wales at its head, might think of carrying out more important objects than the mere business of the Association, as at present constituted, and submitted to the meeting a plan of a Museum of Portraits of Eminent Men. This was considered a most important work, and was cordially approved of by the meeting.'

"So commenced 'The British Museum of Portraits.' Soon after the matter was brought before the notice of Sir Henry, then Mr., Cole, C.B., and so cordially did he approve of it, that it was at once decided to deposit the portraits at the South Kensington Museum. At first the portraits were taken only carte-de-visite size, and as the carbon permanent process was not then known, only fading silver prints were made, and these were so manifestly unsatisfactory that for some years the undertaking was held in abeyance. When, however, the carbon process was perfected, the whole thing bore another aspect, and the importance of a lasting national collection, such as is now being accumulated at South Kensington, became manifest. Not once, nor twice, but many times, persons of high position have told me that they considered the work that the Council have undertaken was one of great national importance. The opinions so generally entertained are well expressed in a letter from Mr. Arthur Arnold, dated December 14th, 1888, in which he says—'I cannot refrain from expressing admiration for your work, and my strong sense of the advantage of such a collection. I often feel what a painful lack of certainty there is in such evidence as we possess in oil paintings, of the likenesses of men of the past, whose characters and works would have for us so much deeper interest and meaning if we possessed such undeniable memorials of their actual lineaments.'

"Against this it may be objected that some photographic portraits, so far from being likenesses, are mere caricatures, but this reasonable objection is entirely met by the decision of the Council, that none but absolutely approved portraits shall be included in the collection, and this point is most strictly adhered to.

"Another point to be observed is that in every case where persons are invited to sit, it is expressly stated that these portraits are not taken with a view to publication, otherwise it might be said, not without some reason, that an unfair advantage over other professional photographers was thus given to the executive artist."

We understand that already some 200 large permanent photographs have been deposited in the Art Department at the South Kensington Museum, and almost as many more are ready to be sent. These latter were on view at the studio of Mr. Melhuish, 58, Pall Mall, S.W., last Saturday. Among the photographs which have been already taken are those of the Duke of Teck, Mr. Gladstone, Lord Salisbury, Sir William Thomson, Mr. John Morley, Lord Selborne, Archdeacon Denison, Mr. Childers, Sir Frederic Leighton, Sir Richard Quain, Sir M. Monier-Williams, Mr. Rider Haggard, Sir Henry Cole, C.B., Sir Harry Verney, Sir Evelyn Wood, Sir Charles Warren, Archdeacon Farrar, and Sir William Grove. These portraits have all been taken by Mr. Arthur J. Melhuish, the honorary secretary of the Amateur Photographic Association, upon whose skill and artistic discrimination, it is not too much to say, they reflect the highest credit. The undertaking is on a strictly non-commercial basis, the photographs being taken for the purpose of the "British Museum of Portraits" only, and not for publication. No expense of any kind is incurred by the sitter. The invitations to sitters are issued under the authority of the Council, which numbers among its members Sir J. Whittaker Ellis, M.P., Sir Spencer Mayson Wilson, and Mr. John Aird, M.P.

After the private view a dinner was given by the Council at the offices of the association, to representatives of the Press and

others. The Duke of Teck, one of the Vice-Presidents, occupied the chair.

Mr. Glaisher proposed the toast of the evening, "Success to the British Museum of Portraits." In doing so he traced the history of the idea of that collection, and said that he had always felt in reading the works of an author that he would have understood them much better if he had had a photograph of the author before him. It was now more than a quarter of a century since they had attempted to do for those who should come after them what had not been done for themselves. The non-success of the attempt at first was due to the fact that at that time there was no process of photography sufficiently perfect to admit of the carrying out of the idea in a satisfactory manner. Now, however, with permanent carbon printing, they were in a position to do what in the first instance they could not even attempt. Great credit was due to the Hon. Secretary of the association (Mr. A. J. Melhuish) for the earnestness and cheerfulness with which he had taken up the suggestion and carried it out. He concluded by proposing the toast, and coupled with it the name of Mr. A. J. Melhuish, who, in responding, gave some further details of the association and its work. Several other toasts followed, including the health of the Chairman.

City and Guilds of London Institute.

SIR PHILIP MAGNUS has caused to be sent us the programme of Technological Examinations, Session 1891-92, of the City and Guilds of London Institute. From this we note that candidates in photography will be required to pass both in the written and the practical parts of the examination. The latter tests will be held on May 7th, from 3 to 7.30 p.m. The following is the syllabus:—

ORDINARY GRADE.

(1) *Written Examination.*—The written examination will include questions founded on such subjects as the following:—

1. The studio and lighting of the sitter.
2. The lighting of the dark-room.
3. The use of stops, shades, and "instantaneous shutters," as applied to lenses, and the use of the swing-back in the camera.
4. A general knowledge of the practice and theory of the wet-plate process.
5. The practice and theory of the gelatine dry-plate process; the composition of and defects in gelatine dry-plates.
6. Various methods of fixing and intensifying negatives, with a general knowledge of the chemicals employed.
7. Silver printing, including vignetting and printing in clouds, toning, and fixing.
8. Principles of retouching, spotting, and mounting prints.

(2) *Practical Test.*—Candidates may be required to show proficiency in conducting any of the following practical operations:—

1. To take in a studio quarter-plate gelatine negative of some object to be indicated.
2. To print, tone, fix, and mount a print.
3. To retouch and spot a negative.
4. To test a sample of glass or fabric to be used in lighting the dark-room.
5. To make a lantern slide by contact.

HONOURS GRADE.

(1) *Written Examination.*—In the Honours Examination, more difficult questions will be set in some of the subjects for the Ordinary Grade, and, in addition, a knowledge will be required of—

1. The theory of the photographic image, of development, and intensification.
2. The theory of light as applied to photography, including a general knowledge of spectrum photography and the construction of lenses.
3. The theory and practical use of sensitometers for testing speed and gradation of plates.
4. The principles of photographic optics.
5. The general principles of the Daguerreotype, and other negative processes, which have been employed at different times.
6. Platinotype and carbon printing, preparation of a photo-lithographic transfer, colotype printing of Woodburytype and enamels.
7. Enlarging and making lantern slides in the camera.
8. Applications of photography to scientific purposes.

(2) *Practical Test.*—Candidates may be required to show proficiency in conducting any of the practical operations for the Ordinary Grade, and, in addition, the following:—

1. To take a portrait with some special lighting indicated.
2. To find the focus of a lens, either corrected or uncorrected.

3. To test the sensitiveness and gradation of a plate.
4. To copy an engraving suitable for the preparation of a lithographic transfer.
5. To make a photo-lithographic transfer from a given negative.
6. To make an enlargement from $\frac{1}{4}$ plate.
7. To make in the camera a lantern slide from a negative.



Holiday Resorts and Photographic Haunts.

NORTH WALES AS A FIELD FOR PHOTOGRAPHY.

BY JOHN A. HODGES.

II.—*The Dee Valley—What to Avoid—Dolgelly—Excursions—Torrent Walk—An Old Mill—A Word on Exposure—The Precipice Walk—Exaggerated Danger—Striking Views for Long-Focus Lenses—A Hint on Securing Clouds—Lyn Cynwch—Other Excursions—The Estuary of the Mawddach—A Ten-Mile Walk—Good Advice—Cattle Studies—Bont Ddu—Cader Idris—Effect of Lighting—Aberamfra Harbour—Barmouth—Marine Views—The Quay—Arthog—Unrestricted Freedom—Marshes and Cattle—A Place for Picture-Making—Railway Facilities—A Final Excursion.*

HAVING exhausted the beauties of Llangollen, we shall have to determine upon our next resting-place and headquarters. It may be said that the best part of the Dee valley for photographic purposes lies between Llangollen and Corwen, and if the reader, during his stay at the former place, has explored as far as Carrog, where there is a very picturesque old stone bridge, he will note that the scenery higher up the river begins to deteriorate. Neither Corwen nor Bala need detain the photographer, the large lake near the latter town being, for the most part, unsuitable for photographic treatment, the shore line being flat and rather monotonous in character, and the mountains too distant to form an imposing background. My object being to point out what to avoid as well as what to select, I should propose that the tourist now proceed by train to Dolgelly and make that his next halting-place.

The character of the scenery, it will be noted by the observant reader, has considerably changed—the rolling hills of Llangollen have given place to the stately outlines of Cader Idris and the other mountain giants by which the quaint little town of Dolgelly is surrounded.

Here the photographer has an abundance of material to satiate his desire to produce pictures. The scenery is of such a nature as to tempt one to a reckless expenditure of plates. Unlike Llangollen, it is difficult, if not possible, to secure an effective general view of the town, albeit its situation, from a picturesque point of view, is unsurpassed. Many studies and quaint bits of old architecture, however, will reveal themselves in the course of a stroll through the old town.

One of the most profitable excursions which can be made from Dolgelly, is that to the Torrent Walk, and thence to Nannau Park and the Precipice Walk. The Torrent Walk should be entered at its foot. Directly after passing through the wicket gate, leave the path and make your way to the river bed; when across the stream, half hidden amongst the luxuriant foliage of the glen, an old mill will be seen which composes well from several points of view. Another pretty view of the old stone bridge, festooned with wreaths of ivy, will also be noted. A word or two of advice as to exposure may not be inappropriate. I have given a great deal of attention to the photographing of glen scenery, and the result of my experience is that a very full exposure, in diffused light, if possible, is necessary to produce a successful and truthful result. On the principle that a little practice is worth any amount of theory, I will give an extract from my note-book of the exposures given to a plate exposed at the locality just referred to, and which turned out a successful negative:—Subject, Old Mill, in Torrent Walk; exposure, one and a half minutes; stop, $f/22$; lens, 5 in. portable symmetrical; light, good, diffused, partial sunlight, very dark subject.

The path continues for about a mile up the glen, and affords many beautiful pictures for the camera. At the upper gate a guide book or map had better be consulted for the details of the route to Nannau Park. The Precipice Walk does not deserve the reputation for danger which guide-book writers have assigned to

it, although, perhaps, in one or two places a little care may be necessary in manipulating the camera. At one point a striking view of the Mawddach estuary, looking right down to the sea, makes a fine picture with a long-focus lens, should the day be cloudy; otherwise much of the charm of the picture will be wanting. Double printing, of course, can be resorted to, but I much prefer to obtain clouds and views in the same negative, and when photographing mountainous scenery there is no difficulty in attaining this result, if a blind-shutter, such as that sold by Tylar or Place, is used instead of a cap; by arresting the descent of the shutter half way, the foreground may be allowed to receive even double or treble the exposure of the sky. After making the circuit of the Precipice Walk, the path descends and leads to the shores of Lyn Cynwch, one of the most effective views of which is to be obtained at a point just before reaching the shore of the lake, where an old wall, over-shadowed by a group of Scotch firs, will attract attention and if Cader Idris, which forms a background to the view, be cloud-capped, as it was on the occasion when I took my photograph, it will add greatly to the effect.

There are many beautiful excursions to be made from Dolgelly; indeed, go in what direction one may, charming scenery presents itself. Tyn-y-groes and waterfall, and Tall-y-Lyn are two excursions which should not be missed, if the reader makes a prolonged stay; but the round just described will be found to embrace some of the most suitable localities for the employment of the camera.

From Dolgelly to Barmouth is a distance of about ten miles, but as every inch of the way teems with interest, the photographer will do well, unless his kit be a very heavy one (and a camera larger than whole plate would probably prove rather a severe tax on the physique of any but the extremely robust, in a mountainous district) to send on his heavy luggage by rail and perform the distance on foot. About two miles on the road some fine studies will present themselves, where the Mawddach flows down the Ganolwyd Valley to join the Wnion. Hereabouts the river twists and twines through sedgy marshes, making a fine contrast to the splendid mountain background which lies behind. There are generally plenty of cattle of the characteristic Welsh type to be found browsing in these marshes which, if skillfully introduced, materially add to the value of the picture; their aspect is fierce, not to say ferocious, but their manners are unexceptionable. A few miles further on, at Bont Ddu, *i.e.*, Black Bridge, a hamlet much frequented by artists, some good work may be done by scrambling down to the shore by the side of stream which here empties its waters into the estuary. One of the finest compositions I have ever chanced upon I met with here, the foreground showing a rocky shore with an old boat rotting at the mouth of the brook, the middle distance formed by the estuary, the wide expanse of which was broken by large, irregular, patches of sand, the whole encompassed by the stately form of Cader Idris, seen to great advantage from this point of view. It should be noted that early in the morning, or late in the afternoon, are the only times when justice can be done to this particular locality, owing to the direction of the lighting. The importance of this matter of lighting cannot be too forcibly impressed upon those who wish to succeed in picture making. Carelessness and inattention in this respect are the chief causes of so many photographs turning out disappointing, if not actually displeasing. A photograph which under certain conditions of lighting is a mere topographical production, under other and more suitable conditions becomes a work of art. Just before reaching Barmouth the road makes a sudden bend, revealing a pretty little creek, in which several picturesque fishing boats are generally to be seen at anchor or lying on the sandy shore. This is known as Aberamfra harbour, and will afford several pleasing pictures.

Barmouth town has no particular interest for the photographer, but it is a capital centre, and is surrounded by the loveliest and most diversified scenery imaginable. A better centre, indeed, could not well be chosen. All the Dolgelly excursions may be taken from Barmouth, the distance by train between the two places being only ten miles. Barmouth, too, being on the sea, presents the additional advantage of affording opportunities for securing some good marine studies, there being generally something going on at the quay, which is a capital place for the employment of a detective camera, by the way, fishing boats unloading their silvery cargoes, graceful yachts coming in and going out, fishermen engaged in the various occupation incidental to their craft, etc.

Across the estuary, two miles away, lies the picturesque village of Arthog, nestling at the foot of a glorious range of hills. A short climb from here brings one to Lyn Cregenau, a pretty sheet of water, backed by Tyrau Mawr, one of the shoulders of Cader. If an old boat, which lies on the lake, is skilfully introduced into the foreground a very pretty picture results. From the lower slopes of the hills surrounding Arthog some pretty peeps of the estuary can be secured, delightfully framed with foliage. Here, happily, as, indeed, is the case nearly all over Wales, one may wander as one pleases, undisturbed by notices or cautions as to trespassing; indeed, the delightful freedom which obtains throughout North Wales in this respect in no small degree contributes to the enjoyment of a holiday spent there. A fine stretch of breezy pasture land, half marsh, half meadow, intersected by narrow dykes, overgrown with bullrushes, intervenes between Arthog village and the estuary. Here cattle are always to be met with, and generally a typical Welsh farm-hand or two tending them. Probably the white umbrella of the landscape painter will be detected here and there across the marsh, for this, be it whispered, is a favourite spot for foreground studies with some of our leading R.A.s. It is impossible in the small amount of space at my disposal, to indicate with particularity all the attractions of Barmouth. As I have before stated, it forms a capital head-quarters, railways diverging from it in three different directions. The Cambrian Railway, by arrangement with local fly proprietors, issue combined rail and coach tickets to various places of interest at marvellously low fares, and by this means visits to Bedd-gelert, Aberystwith, Harlech, Cym Buchanan Lake, and other well-known localities may be easily and economically made. The last-named excursion is a particularly fine one, and should on no account be missed. Train is taken to Llanbedr, and thence a drive of six miles brings the photographer to within a mile of the shore of the lake. Several very fine views may be secured hereabouts, but should the day be a bright one, it will be well to postpone taking them until the return, as the lighting is better in the evening. Leaving the shores of the lake, first a ruined cottage, then a small farm are the only visible signs of human life; a path, well defined at first, leads up to the celebrated Roman Steps; the scenery is now wild and savage to a degree, and yet, by careful treatment, lends itself well to the purposes of the photographer. Such scenery, however, should be portrayed on as large a scale as possible, and if small negatives only are taken, subsequent enlargement will do the greatest justice to it, and best reproduce the effect sought. The walk should be continued up the Roman Steps, and into the Pass of Ardudwy, by which time it will probably be time to return and take the views which it was suggested should be left until the evening light.

(To be continued.)

GRANGE-OVER-SANDS.

By FRITHIOF.

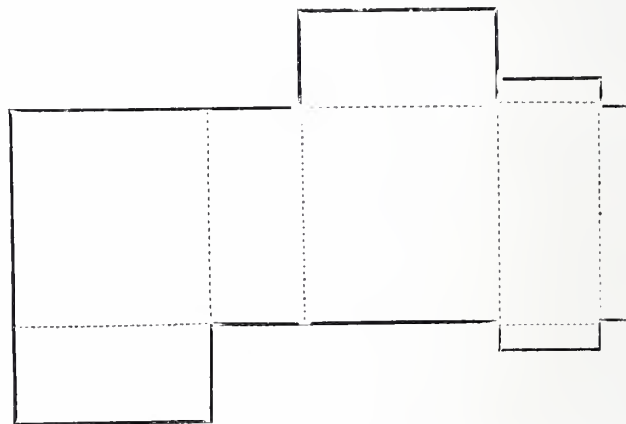
GRANGE is one of the most beautifully situated spots in the north and one of the most central. Here are sea views, landscapes, moorland, or wooded dales. The climate is said to be similar to that of Bournemouth, and is frequented in winter more especially by delicate people from our northern towns. Lodgings are very reasonable. Windermere Lake is not far distant, it being only five or six miles to Lake Side. Anyone who is a good walker could not improve upon the district between Grange and Cartmel, and past Holker Hall on the main road to Lake Side. At Cartmel is a very fine old church, with a good interior and some old-fashioned relics, such as the old Bible, chair, etc. In Cartmel village itself one or two plates can be expended with advantage. Holker Hall, the favourite seat of the Duke of Devonshire, is well worth a visit. Permission can usually be obtained to go round the house; the grounds are always open. By taking an excursion ticket to Furness (two miles from Barrow) one is well repaid, as the Abbey itself is one of considerable grandeur. Some pretty yachting bits can sometimes be got. By crossing Morecambe Bay, in one of the yachts, you will have a delightful sail, about eleven miles across, the lake hills in the distance being specially beautiful. Some amusing figure studies can be obtained with a hand-camera of Yorkshire and Lancashire trippers, who swarm the place, and some of whom get a bath here once a year. Indeed, taking Grange altogether, there is as good a variety of photographic bits as one could well wish for. As for plates, I took my own supply, changing in my bedroom at nights.

A Cheap Home-made Camera Case.

By REV. T. PERKINS, M.A.

DURING the last few years I have made several cases to hold my different cameras, and have supplied plans and directions for constructing them to various friends and correspondents, all of whom have expressed themselves so well satisfied with the result that I think others may be glad to know how to set about the manufacture of similar cases, so, with the permission of the Editor of the AMATEUR PHOTOGRAPHER, I will proceed to describe the *modus operandi*. That these cases are durable, light, and cheap is proved by the following facts. My first case, which will hold a square half-plate camera, and three double dark slides, was made in 1885, and has travelled many hundreds of miles with me by rail and road, and has had several journeys by itself by parcel post, and, nevertheless, it is still in use. It weighs, when empty, just under 18 oz.; its cost I cannot remember, but one made for a 12×10 camera this summer, cost 7d. for millboard, 1s. 3d. for covering cloth, 2d. for glue, and 1s. for leather straps, or 3s. in all.

I first pack together on a table the camera and backs arranged with reference to each other, in the same position as that which I intend them to occupy in the case, so that I can obtain by measurement the necessary length, breadth, and depth of the case. I then procure a sheet of millboard, whose length is rather more than twice the depth and breadth of the case added together, and whose breadth is not less than the length of the case added to twice its breadth; thus for a case 8 in. deep, 9 in. long, and 4 in. broad a sheet not less than 26 in. by 17 in. would be required. On it I then pencil the outline given in the diagram (which being drawn to scale will sufficiently



explain itself), taking especial care to get all the right angles true. I then cut completely through the board along the continuous lines, and cut half through the thickness of the board along the dotted lines. This will allow the board to be bent along the dotted lines into the form of the case and its lid. I then get someone to hold it while I glue strips of calico or cloth along the junctions, and then glue strips of the same kind along the other edges. When the glue is hard, the case is usable, but its appearance will be improved if it is covered. This may be done with waterproof material, or with bookbinders' cloth. It is hardly necessary to give a drawing to show the manner in which this should be cut; the thing to be aimed at is to so cut it that the joins should as far as possible be in inconspicuous places, and to allow of the edges being turned in over the edges of the millboard. The lid, if preferred, may be made entirely separate.

All that is now required is some means of carrying the case. An ordinary double rug strap and handle will answer the purpose well if it is to be carried in the hand, but, if preferred, straps can easily be arranged so that it may be carried on the back as a knapsack or slung over one shoulder.



Herr Putz informs the Vienna Photographic Society that he uses aluminium as a substitute for magnesium to produce an intense actinic light such as photographers require.

"Amateur Photographer" Dark-Rooms, 1891.

THE "DARK-ROOMS" kindly placed at our service for the use of amateur photographers are classed as follows:—

a Amateur *d* Dealer or professional.
h Hotel *s* Photographic society.

Letters of Introduction, Three Penny Stamps.

- | | | | |
|-------------------------------------|--|---|---------------------------------------|
| <i>a, d</i> (2) Aberdeen | <i>d</i> Colwyn Bay | <i>a, d, h</i> Ilfracombe | <i>a</i> Northallerton* |
| <i>d</i> Aberystwith | <i>a</i> Coniston | <i>d, s</i> Ipswich | <i>s</i> Oldham |
| <i>d</i> Addingham, Yorks* | <i>d, s</i> Crewe* | <i>d</i> Jarrow | <i>a, d</i> Oxford |
| <i>d</i> Amsterdam | <i>d</i> Crewkerne* | <i>d, h</i> Jersey | <i>h</i> Paignton |
| <i>d</i> Andover, Hants* | <i>d</i> Croydon* | | <i>h</i> Paisley, N.B. |
| <i>s</i> Ashton-under-Lyne | | <i>d, s</i> Keighley | <i>d</i> Penrith |
| <i>d</i> Aylesbury, Bucks | <i>a</i> Dalton-in-Furness | <i>h</i> Kempston | <i>d</i> Pershore |
| | <i>d</i> Darlington | <i>s</i> Kendal | <i>a</i> Perth* |
| <i>d</i> Banff, N.B. | <i>d, h</i> Dartmouth | <i>a</i> Kingstown, Dublin | <i>a</i> Poole* |
| <i>d</i> Barmouth, N. Wales | <i>d</i> Deal* | <i>a</i> Knutsford | <i>h</i> Port Erin, Isle of Man |
| <i>a</i> Barnsley* | <i>d</i> Derby | | <i>d</i> (2) Preston |
| <i>d</i> Barnstaple | <i>a</i> Devizes* | <i>d, h</i> Lancaster | <i>h</i> Prince's Risboro' |
| <i>d, s</i> Bath | <i>d</i> Devonport | <i>d</i> Larne | <i>d</i> Ramsgate |
| <i>h</i> Beaconsfield | <i>h</i> Dingwall, N.B. | <i>d</i> (2) Leamington | <i>d</i> Reading |
| <i>a</i> Bedford | <i>a</i> Doncaster | <i>d</i> Lechlade | <i>h</i> Redditch |
| <i>d, s</i> Belfast | <i>a, d</i> (2), <i>h</i> (2) Douglas, Isle of Man | <i>h</i> Ledbury | <i>d</i> Rhayader |
| <i>d</i> Belper | <i>d</i> Dover | <i>a, d</i> Leeds | <i>d</i> Richmond, Surrey |
| <i>d</i> Bergen, Norway | <i>d</i> Dresden, Germany | <i>a, d</i> Leicester | <i>a</i> Ringwood, Hants |
| <i>d</i> Berlin | <i>d, h</i> Dublin | <i>d</i> Leek, Staffs | <i>d</i> Rochdale |
| <i>d</i> Bettws-y-Coed | <i>h</i> Dunblane, N.B. | <i>a</i> Lenzie, N.B. | <i>a</i> Rodley, near Leeds |
| <i>h</i> Bex, Switzerland | <i>d, s</i> Dundee | <i>d</i> Leytonstone, Essex | <i>d</i> Romford |
| <i>d</i> Bexhill-on-Sea* | <i>a</i> Dungarvan, co. Waterford | <i>d</i> Lincoln | <i>d</i> Royston |
| <i>d</i> Birchington-on-Sea* | <i>a</i> Duns* | <i>d, s</i> Liverpool | <i>d, h</i> Ryde, Isle of Wight |
| <i>a, d, s</i> Birmingham | <i>d</i> Durham* | <i>h</i> Lizard, Mullion | |
| <i>d</i> Blackburn, Lancs | | <i>h</i> Llandudno* | <i>a</i> St. Agnes |
| <i>d</i> Blackheath | <i>d</i> Eastbourne | <i>d</i> Llanidloes* | <i>d</i> St. Andrews, N.B. |
| <i>h</i> Blakney, nr. Severn Bridge | <i>d</i> East Molesey, Surrey | <i>d</i> London, Aldersgate, E.C. | <i>h</i> St. Asaph |
| <i>h</i> Bodiam | <i>s</i> East Southsea | <i>d</i> Borough, S.E.* | <i>d</i> St. Bees |
| <i>d</i> Bodmin | <i>h</i> Ebbw Vale | <i>d</i> (2) Charing Cross Road, W.C. | <i>a</i> St. Helens* |
| <i>d</i> Bolton | <i>d</i> Edinburgh | <i>d</i> Charterhouse Sq., E.C. | <i>d</i> St. Heliers |
| <i>h</i> Bonar Bridge | <i>s</i> Egremont | <i>d</i> Cheapside | <i>a</i> St. Ives, Hunts* |
| <i>d</i> Boro' Bridge, Yorks | <i>h</i> Ennistymon, co. Clare | <i>a</i> Chelsea, S.W. | <i>h</i> St. Mellons |
| <i>d</i> Bournemouth | <i>a</i> Enfield Town* | <i>d</i> Clapham Junction | <i>d</i> St. Monans, N.B. |
| <i>d</i> Bournemouth, West | <i>d</i> Eton | <i>d</i> Fenchurch Street, E.C.* | <i>h</i> St. Neots |
| <i>d</i> Bradford | <i>a, d</i> Evesham | <i>d</i> Fleet Street, E.C.* | <i>d</i> Sandgate, near Folkestone |
| <i>d</i> Bramley, near Leeds | <i>d</i> Exeter | <i>d</i> Gracechurch Street, E.C. | <i>d</i> Sandown, Isle of Wight |
| <i>d, s</i> Brechin, N.B.* | | <i>d</i> Hackney, N.E. | <i>a, d</i> Scarborough |
| <i>h</i> Bridge, near Canterbury | <i>s</i> Falkirk | <i>d</i> High Holborn | <i>h</i> Seddlescomb, near Battle |
| <i>d</i> Bridlington Quay | <i>d</i> Falmouth* | <i>d</i> London Bridge, S.E.* | <i>a</i> Shaftesbury |
| <i>h</i> Brigg, Yorks | <i>d</i> Faversham | <i>d</i> Ludgate Hill, E.C. | <i>d</i> Shanklin, Isle of Wight |
| <i>d</i> Brighton, Hove | <i>d</i> Felixstowe* | <i>d</i> New Cross, S.E.* | <i>d</i> (2), <i>s</i> Sheffield |
| <i>d, h</i> Brighton | <i>d</i> Filey | <i>d</i> Peckham, S.E. | <i>h</i> Shepton Mallet |
| <i>d</i> Bristol | <i>d</i> Finchley | <i>d</i> South Norwood, S.E. | <i>h</i> Shrewsbury |
| <i>h</i> Broadway, Worcester | <i>d</i> Fleet | <i>d</i> Walworth Road, S.E.* | <i>h</i> Sleaford |
| <i>h</i> Bromley, Kent | <i>h</i> Fochabers, N.B. | <i>a</i> Long Eaton | <i>d</i> (2), <i>h</i> Southampton |
| <i>h</i> Brough, Westmoreland | <i>d</i> Folkestone | <i>h</i> Long Melford | <i>h, d</i> Southend-on-Sea |
| <i>d</i> Burnley* | <i>a</i> Four Ashes, nr. Stourbridge* | <i>d</i> Loughborough* | <i>a, d</i> Southport |
| <i>s</i> Burslem | <i>a</i> Frodsham | <i>a, d</i> Louth | <i>a, s</i> Southsea |
| | | <i>d</i> Lowestoft | <i>d</i> Southwell |
| <i>a</i> Cadiz, Spain* | <i>a</i> Galashiels, N.B. | <i>a</i> Ludlow | <i>a</i> Stamford |
| <i>h</i> Callander, N.B. | <i>d</i> Galway | <i>d</i> Lynton and Lynmouth | <i>a</i> Steyning |
| <i>h</i> Camborne | <i>a</i> Genoa | <i>d</i> Lynn* | <i>d</i> Stockton-on-Tees |
| <i>d, h</i> Cambridge | <i>h</i> Giant's Causeway, Ireland | <i>d</i> Lythe, Whitby | <i>a</i> Stoke-on-Trent |
| <i>d</i> Cardiff | <i>d</i> (2) <i>s</i> Glasgow | | <i>a</i> Stony Stratford |
| <i>d</i> Carnarvon* | <i>s</i> Glenalmond, N.B. (nr. Perth) | <i>h</i> Macroom, N.B., co. Cork | <i>a, d</i> Stourbridge |
| <i>h</i> Capel-Curig, N. Wales | <i>h</i> Glenarm, Belfast | <i>a</i> Madeley, Salop | <i>d, h</i> Stratford-on-Avon |
| <i>a</i> Chalfont St. Peter, Mid. | <i>d</i> Gloucester | <i>d</i> Maidenhead | <i>d</i> Stroud |
| <i>d</i> Cheltenham | <i>d</i> Gorleston | <i>a</i> Mainz, Germany* | <i>h</i> Sudbury, Suffolk |
| <i>d</i> Chepstow | <i>a</i> Goring-on-Thames | <i>d</i> Manchester* | <i>d</i> Sunderland |
| <i>d</i> Chester | <i>a</i> Gravesend | <i>h</i> Mallow, co. Cork | <i>h</i> Sutton Bridge |
| <i>a</i> Chesterfield | <i>d</i> Great Yarmouth | <i>a</i> Malta* | <i>h</i> Sutton |
| <i>a</i> Chipping Sodbury | | <i>d</i> Malvern | <i>d</i> Swindon |
| <i>d</i> Christchurch | <i>a</i> Halifax | <i>d</i> Mansfield | <i>h</i> Symond's Yat, near Ross |
| <i>a</i> Cinderford | <i>d</i> Handsworth* | <i>d</i> (2) Margate | |
| <i>d, h</i> Cirencester | <i>d</i> Hanley | <i>d</i> (2) Marsden, near Huddersfield | <i>d</i> Taunton |
| <i>d</i> Clacton-on-Sea | <i>d</i> Harrogate | <i>h</i> Merthyr Tydfil | <i>a</i> Tavistock* |
| <i>s</i> Cleckheaton | <i>d, h</i> Hastings | <i>d</i> Merton | <i>d</i> Teignmouth |
| <i>d</i> Clevedon* | <i>s</i> Havant | <i>d</i> (2) Middlesbrough | <i>h</i> Thornton Dale, nr. Pickering |
| <i>d</i> Clifton | <i>d</i> Hereford | <i>d</i> (2) Milan | <i>h</i> Thorpe |
| <i>a</i> Clitheroe | <i>d</i> Hexham | <i>h</i> Monmouth | <i>h</i> Tintern Abbey |
| <i>d</i> Colchester | <i>h</i> Holbeach | <i>d</i> Montrose, N.B. | <i>d</i> Todmorden |
| <i>h</i> Colnbrook | <i>a, d</i> Hull | <i>a</i> Mountsorrel | <i>d</i> Torquay |
| <i>h</i> Congleton | | <i>a</i> Mumbles, near Swansea | <i>h</i> Tring |
| | | | <i>d</i> Tunbridge Wells |
| | | <i>d</i> Newark, Notts | <i>a, d</i> Tynemouth |
| | | <i>d</i> Newcastle-on-Tyne | |
| | | <i>d</i> Newport, Mon. | <i>s</i> Uttoxeter |
| | | <i>a</i> Newport, Pembroke | |
| | | <i>a</i> Niton, Isle of Wight | <i>a</i> Ventnor |
| | | <i>d</i> Norwich | <i>a</i> Vienna |
| | | <i>d</i> Nottingham | |
| | | | <i>h</i> Wadebridge |

NOTE.—At the time of going to press we have not received signed authority for the use of "Dark-rooms" marked * but they were all placed at our disposal last year, and are doubtless available.—Ed. AM: PHOT:

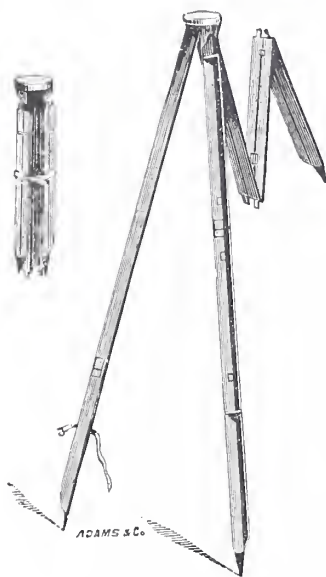
d Wakefield
h Warwick
d Waterford
d Watford
d Wath-on-Deane
a Wellington, Salop
d, s West Hartlepool
h Westgate-on-Sea
d Weston-super-Mare
h Wetwang, York
d Weymouth
d Whitby
d Wimbledon

d Winchester
h Wrexham
d, h Windsor and Eton
d Wisbech
d Wolsingham
a Wolverhampton*
a Worcester
d, h Worthing
—
a Yarm
d Yeovil*
a, d York
d Youghal

APPLICATIONS for letters of introduction must be accompanied by **three penny stamps**. Full particulars are given as to charges (if any); plates, chemicals, etc., kept in stock by dealers; terms for temporary membership of societies, etc., etc.

THE OWNER of Dark-Room will be advised by same post as the applicant. In order to prevent delay, all applications should be addressed to the Editor, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C., and *plainly* endorsed "Dark-Rooms."

CONTINENTAL DARK-ROOMS.—Information can be supplied respecting many Dark-Rooms on the Continent, and addresses given of firms who stock photographic materials.



An Ingenious Tripod.—Calling upon Messrs. Adams and Co. at their establishment in Charing Cross Road, we were shown their new "Lightning" tripod, which well deserves the name given it, for with the unbuckling of a strap, shown in the illustration, the three legs unfold and give us a most rigid tripod. The legs are each formed of two strips of hard wood hinged at the edge with L-shaped hinges. The tripod is three-fold, with strong metal lapping pieces at the joints. The legs when erected are L-shaped for the whole of their length, and the most perfect rigidity is ensured. This stand, which will carry quarter, 5 by 4, or half plate, is sold for £1 1s., and is the cheapest tripod in the market, taking into account the extreme portability and rigidity.

Societies' Meetings.

Richmond.—At the ordinary meeting on the 31st ult., Mr. Davis in the chair, the subject for discussion was "Photographing Interiors." Mr. Faulkner showed negatives taken in some of the apartments at Haddon Hall, with only one minute's exposure, developed with eikonogen, and showing plenty of detail and superabundance of density. Other members contributed to the discussion, hints on levelling the camera, backing plates, exposure, etc.

Liverpool.—The ordinary meeting was held on the 30th July, Mr. Paul Lange, President, in the chair. The following gentlemen were unanimously elected members of the Association, viz., Messrs. G. H. Addinsell and Richard Owen. Mr. F. Anyon reported on the excursion to Miller's Dale, which had been attended by eighteen members and two friends, and was a decided success. Proceeding seven miles on foot from Miller's Dale to Buxton, about ninety plates were exposed, and a very successful photograph of the party was taken on a whole-plate by Mr. Pennington. As the result of the excursion, a little sweepstake competition was arranged. Nine sets of pictures of three each were sent in. Mr. Thomas S. Mayne and P. H. Phillips were the adjudicators, the following being winners: Mr. F. Anyon ("Silver Pyro"), first prize; Mr. J. Pennington ("Y"), second; Mr. J. H. Swift ("Lignum Vitæ"), highly commended. Samples of silver paper by John Charles and Co., of London, and Adams, of Kent, were handed round and discussed. One of the members, at present in Norway on a holiday tour (Mr. B. Boothroyd), had sent some quarter-plate negatives that he had developed (*en route*), and which showed spots and curious fungus marks, as if some acid had eaten into the films. Various conjectures were assigned for the phenomenon. Mr. Henry Crouch, of London, attended and exhibited his "Presto" hand-camera, he also showed an ingenious shutter that he had designed for Mr. Dresser, and the same attracted much attention. Dr. Kenyon then proceeded to read a paper, and give a practical demonstration on "Obernetter's Ferro Cupric Process."

"Amateur Photographer" "Holidays with the Camera," Competition (Second Year).—Prizes: Gold, Silver, and Bronze Medals, and Certificates with special prizes of "Niece" or progressive medals for past prize-winners. In all, *twelve prizes* will be placed at the disposal of the judges.

SUBJECTS.—All photographs are eligible that have been taken during the "Holidays," but must be landscape or sea pieces, with or without figures, views of town, photographs of cathedrals, churches, public buildings, etc., but *not* portraiture, *figure study* of pictures which could be classed as "Photography at Home."

NUMBER.—No more than twelve, or less than six prints are to be sent in. They must all be mounted. They will be judged upon their merits as a whole.

DESCRIPTIVE NOTES.—Each competitor must contribute a short account of his holiday, to be not less than 500 or more than 1,000 words.

DATE.—All photographs must be received on or before the 31st of December, 1891.

RULES, CONDITIONS, and ENTRY FORMS will be forwarded on receipt of stamped addressed envelope. The application should be addressed, "HOLIDAYS WITH THE CAMERA," Editor, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C.

To Correspondents.

All communications for these columns are to be addressed to **The Editor, "Amateur Photographer," 1, Creed Lane, Ludgate Hill, London, E.C.**

RULES.

1. Write clearly and distinctly on one side of the paper only.
2. Write each Query or Answer on a separate sheet of paper.
3. Write the name and address legibly on the back of each communication, and sign all Queries and Answers with name or *nom de plume*.
4. All matters for these columns MUST be received by TUESDAY MORNING'S POST.
5. The Editor does not undertake to answer questions by post.
6. In answering Queries, correspondents are requested to mention, in every instance, the *number and full title of the query* referred to.

QUERIES.

4917. **Hard Water.**—Will hard pump water do to wash prints in previous to toning, or must it be soft or rain water?—I. C. R.

4918. **Filtered Rain Water.**—Will rain-water

filtered and boiled do to mix up toning baths? or must it really be distilled water?—I. C. R.

4919. **Sensitised Paper.**—What maker's paper is considered best for the acetate and borax baths? Is Fallowfield's or whose?—I. C. R.

4920. **Eastman Films.**—I find great difficulty in keeping these films, of whole-plate size, quite flat during development; will any one kindly give some hints? I have tried the Eastman Company's developing dishes, but find they damage the edges of the film.—BETA.

4921. **Fixing Bath.**—Eikonogen formulae recommend the addition of bisulphite of soda 1 part to 4 of hypo. Can any one state what effect this bath should have on pyro ammonia or hydroquinone developed negatives, and is there any advantage in adding bisulphite to a fixing bath for prints? I have experimented with such a bath and cannot find any difference in the appearance of negatives fixed in it from the fixing in hypo alone.—GRINGO.

4922. **Hypo Eliminating.**—One constantly reads: Wash (negative or print) until all traces of hypo are removed. Query how to know when a trace of hypo remains? How can it be detected? And is it really so important that no trace of hypo should be left in a negative?—GRINGO.

4923. **Belgium and Holland.**—I intend visiting Belgium and Holland shortly with a half-plate camera, and would like to know—(1) If there will be any difficulty with the Customs officials in getting the plates safely across? (2) Can Ilford plates be obtained in the different towns; if so, what towns, and at what price per dozen? (3) Is there any work published for the guidance, etc., of amateur photographers in these countries; if so, where can it be had and at what price?—REKLAW.

4924. **Conway or Colwyn Bay.**—I should like to know which is the most convenient place to stay at,

as I wish to make one of the above places my headquarters for about a fortnight, and make excursions by rail or otherwise to places worth photographing within about twenty miles. Any choice "bits" would be much appreciated; also could anyone recommend me cheap apartments? No matter how humble as long as clean and comfortable.—M. E. M.

4925. **Scratches.**—Along the film of one of my most valuable plates is a deep scratch. Can I do anything to it to prevent it showing when the plate is printed off?—RUDSTOCK.

4926. **Photographing in Germany.**—I shall be glad if any of your readers will tell me if there are any restrictions against taking photographs of the principal buildings and places in Stettin, Berlin, or Hamburg? Can the English size of dry plates be obtained in any of the aforementioned German towns?—A. CROWE QUILL.

4927. **Custom House Regulations in Germany.**—Are the Custom House officers very strict in examining an amateur photographer's outfit at any of the North German ports? Would any of your readers oblige by giving, in German, the best form of label to be attached to boxes of dry plates.—A. CROWE QUILL.

4928. **Isle of Wight.**—I hope to spend the last fortnight of August in the Isle of Wight, and propose staying at Sandown at least the first week, as my centre of operations. I should be glad to hear of some comfortable quarters to put up at. Is it necessary to obtain leave to photograph in the Clines and Carisbrooke Castle? Could the western part of the island be also done from Sandown by train, or would it be cheaper and more convenient to move one's centre? Any hints as to the best method of spending a fortnight with the camera in the island would greatly oblige?—F. S. WORSLEY.

4929. **Toning Baths.**—May I ask Mr. H. W. Ellis

kindly to tell me if the toning bath he recommended to J. W. W. last week will keep for any length of time. I mean the stock solution. And does he advise the bath to be warm when in use? I have heard of toning baths being warm in winter. Will 8 oz. of water be enough to tone six half-plates all in the dish at one time? Will Mr. Ellis kindly write to me?—D. G. HARRIS.

4930. Double Albumenised and Sensitised Paper.—I shall be glad of full particulars of the best way to make double albumenised sensitised paper—which is the best paper to use, and any further particulars will oblige.—W. H. ELLIS.

4931. Instanto Camera as a Hand Camera.—I have an Underwood's Instanto $\frac{1}{4}$ -plate; can any reader inform me how I can adjust same to be used as a hand-camera, and how the focus can be obtained?—GORGAN.

4932. Adhesive Paste for Crystoleum.—Would any one kindly furnish me with a recipe for the above? Gelatine will not do, patches showing during the waxing operation, while dextrine seems to produce a grain.—MOONEN.

4933. Toning Solution.—Will W. H. Ellis or any of your readers tell me how long the toning solution he mentions in answer to query 4896 will keep?—E. J. T.

4934. Focal Length.—Can any one tell me the focal length of Lancaster's Le Meritoire, and what is the greatest distance an object would be sharply in focus.—E. J. T.

4935. Developer.—Would any reader please state whether pyro or hydroquinone is the better developer for Thomas's Plates (the Pall Mall), and also favour me with formulae for same?—HYRO.

QUERIES UNANSWERED.

July 17.—Nos. 4863, 4865, 4866, 4868, 4871.

„ 31.—Nos. 4900, 4902, 4904, 4905, 4907, 4909, 4912.

ANSWERS.

4838. Lamp Shade, etc.—(1) The porcelain for lamp shades can be obtained from most artists' material dealers. (2) The ordinary method of vignetting. (3) The plaques should be mounted in brass frames, which any lamp manufacturer would do for you. (4) Yes, the film may be easily removed whole in the case of failure by soaking in water.—OSIRIS.

4877. Madstone and Ashford.—Round Ashford there is plenty of work. Leave Ashford by North Street; the first point is some osier beds and osier picking on the right; just opposite this is the road leading to Eastwell Park and church, where at least six dozen plates may be exposed without exhausting the stock of views. The church is a lovely bit with the lake in the foreground; there is a magnificent marl-tomb inside; permission would probably have to be obtained. Before you get to Eastwell you pass Kennington, where there are some very curious old cottages, and if you like to go along the Wye road you might expose two or three dozen plates without exhausting everything; old mills, churches, chalk pits, river views, saw mills, hog gardens, everything you want, including the obstreperous Kentish hog.—OSIRIS.

4886. Stanley's Actinometer.—Ackland's exposure scale may be used with the actinometer with good results.—OSIRIS.

4895. Pyro Developer.—I think "Winter" must have mixed the two or three solutions in wrong order, when mixing caused a sediment; it is not well to use a developer like that.—W. H. ELLIS.

4895. Pyro Developer.—The solution, no doubt, was partially oxidised. If not very dark, the only result will be yellow negatives; if black, it is useless. If you do not wish to use sulphite of soda as a preservative, I should use twenty drops of pure nitric acid, or the equivalent of sulphuric, in preference to citric.—PERO.

4899. Changing Plates.—Amongst other plans that of cutting a gelatine lozenge in four and after slightly damping, sticking at each corner of plates, films inside; there can be no danger of friction, and a penknife blade will soon remove the lozenge when plates are wanted.—MOONEN.

4899. Changing Plates.—When on a tour I always pack my exposed plates in the old plate boxes, putting them face to face with tissue paper between. If the box is not quite full, I put paper on top to keep them tight. I wrap the box in two thicknesses of brown paper. I have never had a plate spoiled by this means of packing. You could use a numbered label on each plate, and a note-book to enter particulars in.—PERO.

4899. Changing Plates.—There should be no difficulty about this; if only for a short trip, pack face to face, and return to original boxes. I have done hundreds as this, and have found it good. But if for long journeys, say for months, pack face to face with a piece of Wheeler's preservative paper between, and pack well and put in boxes, so that they do not move about. In all cases I put a small gummed ticket on back, which corresponds with my note-book, to which I refer when developing.—S. H. C.

4899. Changing Plates.—In answer to "C. H. R." I beg to say I have just had a splendid outing in North Wales. I took with me four dozen plates. Before leaving home, I had a dark box made by an ordinary

carpenter; it is about 9 inches long, and had grooves on each side wide enough to take two plates in each; it holds three dozen plates. Put film outside, then they do not touch. I lined it with black cloth, and had an inner lid to fit in, also lined with cloth. I emptied my slides in my bed-room at night, and refilled them for the next day. I don't think a particle of light got to the plates; I had no fog whatever. They can be wrapped up and kept in the ordinary cardboard boxes. I brought one dozen in that way, but the other is much the best. I should be glad to give any information to C. H. R., as to making one of the boxes I mention. Should C. H. R. use the cardboard boxes, he must use the little strips of card at the edges of plates to keep them from touching each other.—D. G. HARRIS.

4901. Adapter.—I think Fallowfield, 146, Charing Cross Road, supplies these. Write to him and find out.—CARBONATE.

4901. Adapter.—I have an adapter of my own design, and six Barnet single slides, and have taken dozens of whole-plate negatives with half-plate camera. If you get Shew's adapter, you would only have one slide, but of course could get extra ones, which would add greatly to cost. Will give fuller particulars of mine if you care to write direct. Address with Editor.—DOVE DALE.

4903. Cardboard Backs.—To be had of most photographic material dealers; Jonathan Fallowfield.—MOONEN.

4903. Cardboard Backs.—The "Autos" mounts sold by Adams and Co., 26, Charing Cross Road, might suit you.—CARBONATE.

4903. Cardboard Backs.—You can obtain bevelled glasses, backs, and all other opaline materials from Percy Lund and Co., Bradford.—PERO.

4903. Cardboard Backs.—I expect you will probably be able to get what you require at Robinson's in Regent Street; they sell most things of that sort.—PERO.

4906. Lens.—A good lens ought to give good definition at the margin of plates with full aperture, but only a few makes do, I fear. With $f/6$ the definition should be excellent.—PERO.

4906. Lens.—Of course, a lens would give a sharper picture the smaller the stop. I can't make out what there can be wrong with your lens. The name "Optimus" is a sufficient guarantee for its excellence. Perhaps you are trying to use a quarter-plate lens for half-plate work.—PERO.

4908. Fixing Bath, to avoid.—In reply to Daisy's query, I think the formula described is a good one, and will suit plates which have been developed with either pyro or hydroquinone, provided they are washed well before putting them in the solution.—W. H. ELLIS.

4910. North Wales.—I found it cheaper to make Llandudno my headquarters, and train to Bettws, Conway, Carnarvon, and other places of interest. The "Gossiping Guide to North Wales," which is to be found everywhere on the line, costing 1s., will give you more information than there is space for here.—MOONEN.

4910. North Wales.—In reply to "Cunbria," I beg to say I have just spent a fortnight in Bettws-y-coed and neighbourhood, and have exposed about four dozen half plates, out of which I got about forty very decent negatives. You will find plenty of places worth photographing, viz., Pontypare Bridge and Falls, Miners' Bridge, Swallow Falls, Fairy Glen, Conway Falls, Fandy Mills, Pontypant Bridge and Falls; in fact, there are so many places you scarcely know which to choose. I stayed at the Lugwy View Temperance Hotel, and the charges were very moderate, and cooking and attendance first-rate; the sitting rooms overlook Pontypare Bridge and Falls. The name of proprietor is Owen Edwards. I brought all my plates home to develop, although there is a dark-room to be had in Bettws-y-coed at the chemist's, where plates may be obtained. I used Ilford ordinary and rapid.—D. G. H.

4911. Thomas's Cyclist Plates.—All Thomas's plates are good. The cyclist plates are made specially for hand-camera and similar work. They are very rapid and coated on very thin light glass. They are certainly as rapid as the Paget 50-times; whether they are as good is merely a matter of opinion; it's about six of one and half-a-dozen of the other. They are both the same price; try both and see which you like best.—CARBONATE.

4913. "Eveready" Dark Room.—It is easily put together, perfectly light-tight, and I can confidently recommend it.—J. H. B. GARRETT.

4913. "Eveready" Dark Room.—I have used one for some time, and have pleasure in being able to testify as to its good quality, finish, and convenience of fittings, etc., and should recommend H. E. to get one without delay.—D. ALLEN.

4914. Lens.—As regards lenses, I have one of Piggott's J.P. rapid rectilinear lenses, which is quite equal in definition to another R.R. which I have, and, in fact, is sharper at the edges if anything.—A. G. TOTTEM.

4915. Shutter.—The Thornton-Pickard, "instantaneous only," is the best value for the money.—PERO.

4915. Shutter.—The Thornton-Pickard shutter I can thoroughly recommend as a first-class instrument for all sorts of work; the prices range from 18s. 6d. upwards. I have used it for over a year for the fastest

of subjects, and still find it as good as when I bought it.—PERO.

4916. Hand Camera.—Messrs. Sharp and Hitchmough, of Liverpool, supply a hand-camera called the "Universal" which would just suit you. I have thoroughly examined it, and think it a most excellent instrument.—PERO.

4916. Hand Camera.—The No. 4 Kodak would suit you, I expect. It takes 4 hy 5 pictures, with a roll-holder with a spool of 100 exposures, price £10 7s. 6d. It has only three movements, i.e., pull the string, turn the key, press the button. It is well worth the money.—PERO.

EDITORIAL.

SPECIAL NOTICE.—We are very pleased to find that replies in this column are so much appreciated, but we should be very grateful if those requiring advice would send their letters to us BEFORE TUESDAY MORNING'S post if possible. The time occupied in replying in this column is very considerable, and owing to the often late receipt of letters, many matters have to be left over each week. This we much regret.—Ed: AM: PHOT:

VALOIS.—Your prints have been found, and we will return this week.

T. LOWE.—Probably with the xxxxx plates and an aperture of $f/8$, the plates would be over-exposed. A single lens working at $f/8$ would be quite quick enough and as suitable as a doublet.

ROBT. SHAW.—There is no common washing soda intensifier.

FRINT.—1. Fair. 2. Good. 3. Fair—all are spoilt by the fearfully weak colour. You would get better results by using the bath four times as strong; thus use 1 grain gold and 80 horax to 5 oz. hot water, and use as soon as tepid; the prints should tone in less than a quarter of an hour.

F. E. BUCHER.—It is most probable that you had used your hypo for fixing plates, or prints developed with ferrous-oxalate. Are you sure you did not use alum? Let us hear from you again?

T. B. S.—1. Very good—an inch of foreground would improve it. 2. Good; one or two children on the gate would have improved it. 3. Good. Your work shows sufficient promise to be entered for our competitions, especially if you abandoned the glaze and used matt-surface paper.

A. J. HUNTER.—Letter by post.

CALCUTTA.—Your lens-ars are probably about twenty years old, value about £3 to £4; the screw arrangement is merely a device for focussing, instead of rack and pinion, and the tubes are marked, to make certain; both lenses are at equal distances from screen. Always pleased to help you at any time.

SEPTIMUS.—1. Spoilt by being printed in the sun. 2. Under-exposed; what are the curious spots in the middle of the plate? 3. Over-exposed, flat, and foggy. 4. Wants printing slowly on chloride paper to bring out detail; the tone is very poor. 5. Fair. 6. Very poor, both artistically and technically. All your prints are flat and wanting in contrast, most over-printed and over-toned.

MRS. J. T. RICHARDSOX.—We can rarely answer by return of post, especially just now at holiday time.

1. Over-exposed, flat, and poor. 2. Over-exposed and over-printed. 3. Poor, hardly warranted an exposure on it. 4. Flat and poor. 5. Ditto. 6. Ditto. 7. Under-printed. 8. Poor; shows hatching badly, and the straight edge of pew in front spoils it. 9. Poor and foggy. 10. Fair. 11. Fair. 12. Fair. 13. Poor. Nearly all your work is flat and wanting in contrast, much of which is due to printing in the sun. We are afraid you will have to show better work than this for the Ladies' Competition.

J. C. D.—You will be well pleased with No. 2 lenses; they have a special lens for hand-camera work. You had better write them. The hand-camera you name is well worth the money. If in town, you should call and see it at the firm's London agents.

A. P. G. D.—The slide cannot be entered again.

J. R. GREATORREX.—"The Yankee Sunflower" has returned to his native land. We could send you his address, but the delay in reply would probably render the information useless.

E. HALL.—You shall have the "New Zealand" photographs at an early date as requested.

HUGH WOODNEY.—Several firms advertise in the AMATEUR PHOTOGRAPHER—Hemery; Done and Co.; Swanley Studio, etc. Your negatives would be safe with any of the firms who advertise retouching, printing, etc.

J. B. H.—Many of them have good points. How much money will you spend? Do you require a "magazine camera," or one with double slides?

ST. BERNARD.—We are unable to find your prints at present. What were they of?

P.—We should think No. 2 would make the best lantern slide, and use a dome or cushion mark; you have too much foreground in this. We place prints as follows: 2, 3, 4, 1.

H. J. L. J. MASSE.—We regret that your last queries were unanswered, but can only suppose they were overlooked. A wide-angle lens working at the same ratio aperture as a rectilinear is of the same rapidity.

1. To find out the relative exposures with any given stops, square the ratio numbers. Suppose your stops

are marked $f/16$, $f/22$, $f/32$, $f/44$ —these squared will be 256, 484, 1,084, 1,936, therefore the exposures will be as 1, 1½, 4, 7½. 2. Almost impossible to answer this, as it all depends upon the light and colour of subject, but for a dark ivy-coloured church, on a bright day but no sun, ordinary rapidity plate, $f/22$ stop, about 2 secs would be right. 3. The lens can be used for any work that a rectilinear is used for. 4. If you are getting good results on Thomas's plates, stick to them; the others are not more rapid. 5. Distortion of perspective and exaggeration of foreground is unavoidable with a wide-angle lens.

ISIS.—As long as you do not put too much of the waxing solution it will answer perfectly. We always use French chalk, but probably dust more off than you do.

MICROSCOPIST.—It is merely a case of reduction in size carried to the extreme. The wet or dry collodion process must be used. We should advise you to get them done commercially, but we will write you further by post on hearing from you.

NOVICE.—Soak the negative in methylated spirit, and then rub the paper off with the end of the finger.

W. T. BARTOX.—Letter and plate to hand; we will develop and write you.

ISLEY R. CODMAN.—Write to Humphreys, Upper Street, Islington, for film-holder for developing.

F. IL.—Probably your bath is dirty. Filter it. Neutralise your gold solution with soda, add to the toning-bath twelve hours before use. Keep the bath in the dark.

REV. F. PARTRIDGE.—Try some good thick black varnish, or else send to the makers.

A. J. DALTON.—The two hand-cameras are on different principles entirely; both are excellent and reliable instruments, but you cannot say one is better than the other. We like the Talmer very much.

ESSAY.—A month or so back we had a leader on varnishes which would give you all the information you want about your tray. We do not like the lens named.

CAMERIST.—Mr. Wall is right, and you are wrong; linear measurement is always used in calculating enlargement distances. Try it practically, and see.

R. J. W. GRINDLE.—Your safest plan is to coat the back of the negative with yellow matt varnish, and wipe off a streak exactly the width of fog. A second coat of varnish might be necessary.

HYPO.—(1) Swinging the front is not the same as swinging the back. (2) The actinometer named depends upon the darkening of chloride of silver, and cannot be a reliable guide for bromide plates. (3) Thornton Pickard's, Underwood's, both reliable, good shutters. (4) Blackfriars Sensitising Company, Mucklow, Charles, Albion Albumenising Company. We never mind answering queries, but surely you could consult our advertisement pages. (5) The stop depends mainly upon the sharpness required for landscapes $f/22$, portraits full aperture, copying the largest that will give everything sharp, which is the golden rule for using stops. (6) A print is made from the figure negative, the figure carefully cut out and blackened in the sun and used as a mask between the landscape negative and paper, the landscape is then masked in the same way, and the figure printed in.

T. R. VALPY.—The marks you complain of are in the negative, and are due to faults in coating the plate; they are both pretty little bits, though you have rather overdone. Do you want prints back?

W. H. B.—1. Not quite sharply focussed, an inch less water would improve it, rather uneven in toning. 2. Good, but overdone. 3. Very good, quite equal to our competitors, uneven in toning. 4. Fair, camera not level, uneven toning. 5. Good. 6. Why on earth cut the church in half? This spoils it completely. 7. Fair. 8. Good. If these are actually your first productions you give fair promise to be a prize-winner in a marvellously short time. Abandon your high polish, and use the matt surface white chloride paper, use a chrome alum bath before toning, and do not use your bath too strong. We shall be glad to help you further, and confidently expect to congratulate you as a prize-winner of one of our medals this winter. Many a man who has worked for years cannot show such work. Father-in-law is excellent.

P. H.—Your prints are all unnumbered, and no envelope for return enclosed. 1. The camera should have been at least half the distance from the house. 2. Fair. 3. Camera not level, negative shows marks of uneven development. 4. Over-exposed and over-developed. 5. Flat and poor. 6. Bad. 7. Over-developed. Most of your prints are spoilt by printing in the sun. Do you want your prints back? They are hardly up to competition standard.

C. T. RADCLIFFE.—1. Good. 2. Good. 3. Very good. 4. The water wants breaking up by a boat. 5. Very good. 6. Good. We do not think there can be much improvement on your work. Do you want your prints back?

THE DOCKE.—1. The negative shows signs of uneven development, the camera was not upright, the print was not printed deep enough, is badly trimmed and mounted. 2. The camera was not upright, the negative is full of holes, the print not deep enough, and the paper spoilt by dirt or dirty fingers. 3. Missing. 4. The negative was imperfectly fixed. 5. Either you did not focus sharply or else the paper was

not in contact when printing, print shows signs of dirt. 6. Your group is all one side, is underprinted and shows dirt. 7. Negative fogged, and print flat and poor. 8. Overdone camera not straight, print again dirty. 9. Negative fogged. 10, 11. Under-developed, wants intensifying. 12. Plate fogged one side, print insufficiently toned and dirty. Can you call on us one Monday afternoon between 2 and 3? If not, we will write you direct.

J. H. ATHERTON.—Only slides for the stereoscope. REX.—A threefold tripod is described this week most admirably adapted for cycling. Watson, of Holborn, has a special cyclist's tripod, which is, we think, fourfold; you should see both.

STANLEY L. WILTON.—Entry forms not yet ready; shall be sent you next week probably.

Sale and Exchange.

CHARGE.—Twelve words or less for Fourpence. Every additional three words, one penny. The name and address of the sender must be paid for. (A single figure, or group of figures undivided by letter, space, stop, or words, counts as one word; compound words count as two words.)

DEPOSITS.—The money for goods forwarded on approval may be deposited with the Publishers of the AMATEUR PHOTOGRAPHER, who will hold the amounts deposited until they are satisfied that the transaction has been completed to the satisfaction of buyer and seller.

COMMISSION.—A charge of 2½ per cent. will be deducted from all deposits whether a sale is effected or not.

PAYMENT.—All payments are to be by cheques or Postal Orders, made payable to Hazell, Wat on, and Viney, Ltd., 1, Creed Lane, London, E.C.

REPORTING.—Apparatus may be sent to the Editor, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C., who will report upon the apparatus to the buyer for a minimum fee of 2s 6d., or a commission of 2½ per cent., upon the sale price of the apparatus.

CARRIAGE must be paid on all apparatus sent for report, and they will be returned carriage forward.

ADVERTISEMENTS can be inserted under a number, the name and address being registered, and letters forwarded for a fee of 3d. to cover postage.

ADDRESS.—All advertisements (which can be received up to Wednesday morning, 9.0 a.m.) and other communications having reference to the "Sale and Exchange" column, must be addressed "Sale and Exchange, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C."

PAYMENTS should be made in Postal Orders or Postage Stamps.

R U L E S .

Cameras, etc.—Quarter Le Merveilleux, case, new, 20s.; Presto camera, 8s.—Camera, Heyside, Oldham. Lancaster's half-plate Instantograph with case, three slides, £3.—Rose, Leigh, Lancashire.

First-class half-plate camera, almost new, with three double slides, £2 17s.—B., 1, Balfour Terrace, Mayes Road, Wood Green.

Camera Case.—11½-f-plate or 7 by 5 solid leather camera case, long and narrow, with shoulder straps, cost 30s., price 17s.—H. Gilbert, 52, Edgware Road, London, W.

Camera, Lens, etc.—Quarter-plate camera, lens, and double slide, 7s. 6d.—T. W. Birdsall, Honeywell, Barnsley.

Marion's light whole-plate camera, three backs, Ross, 8 by 5 R.R. lens, excellent condition, cheap.—Letters, X. Y., care of Mr. Sanders, 191, Brighton Road, Croydon.

Camera, repeating back, fitted with 3 by 2 rectilinear lenses, three pictures, complete 18s.—A., 135, London Road, Croydon.

Dark Slides.—Three half-plate slides, book form, with carriers for quarter-plate and strong mahogany case, price 24s.; recently cost double.—Address, No. 188, AMATEUR PHOTOGRAPHER office, 1, Creed Lane, Ludgate Hill, E.C.

Hand-Cameras.—Kodak, No. 3 junior, in perfect condition, lowest price £5; no approval.—T. Mecca, Ings House, Hawes, Yorkshire.

Shew's Eclipse quarter-plate hand-camera, with double back, finder, and fitted roll-holder, as good as new; cost over £7; price £5.—H. Tudor, 80, Ararat, Richmond.

Rouch's quarter-plate Eureka detective camera, latest pattern, as new, £5 5s.—Dr. Winter, 4, The Birklands, Hilsca, Cosham.

Will exchange Swinden and Earp's hand-camera, quarter-plate, good as new, brass bound, for tricycle, or sell £6 5s., with waterproof cover.—F. A. R., 70, Bethune Road, N.

Lens, etc.—Taylor, Taylor, and Hobson's 2½ by 3½ doublet detective lens, 4in. focus, Iris diaphragm; price 45s., as new.—Robinson, Percy Gardens, Tyemouth. More particulars if required.

Ross' rapid symmetrical lens, 6 by 5 as new, £3 15s.—B., 5, Park Road, Crouch End, London, N. Whole-plate rapid rectilinear lens by Chambers, with Iris diaphragm, £3.—Dollery, 57, Charing Cross, S.W.

Lens, rectilinear 7 by 5, $f/8$ to 32, nearly new, 4s. instruction book, recoup dry plates, opals, bromide paper, cheap, no trouble, 25s. cash; fine old violin, (our band-master's 20 years) 15s.—J. Bland, Orton, Teyah.

Underwood's 9 by 7 rapid landscape lens, $f/8$; quite new; cost 27s., price 22s.; offers.—T. Storey, Alston, Cumberland.

Lens, grand rectilinear, 7 by 5, loose hood, stops $f/8$ to $f/32$, new; offers wanted near 25s.—Adams, Hatton Yard, E.C.

Roll-Holder.—Half-plate Eastman roll-holder, 28s., separate focussing screen included.—H. Gilbert, 52 Edgware Road, London, W.

Sets, etc.—Lancaster's quarter instantograph (1886 pattern), with lens, shutter, three double backs and finder; cost £3; sell for 30s.; or offers; excellent condition.—Everett, 125, St. Paul's Road, Bow, London, E.

Half-plate Watson camera, view lens, three double metal slides and adapter; good condition; first £2.—Wood, 33, Wellington Road, Bridgewater.

Lancaster's half-plate Le Meritote set complete, 35s.—P. A. Ehert, 126, Liverpool Road, Islington.

Rouch's 5 by 4 in. patent portable camera, reversing back, swing back, rising front, three double backs, Optimus R.R. lens, tripod, leather case complete, all good as new, £5. Ross Wilsonian single lens, £1 6s. Optimus wide angle 5 by 4 lens, £1 1s. Two latter separate if desired.—Selby, 42, Ladbroke Grove Road, W.

Lancaster's 1891 quarter-plate Instantograph complete, new condition, 36s. Whole-plate Eclipse changing bag, new, 6s. Stirn's large size vest camera, 20s. Samuel's patent hand-camera for plates 3½ by 2½, 20s. Long-focus quarter-plate camera, leather bellows, all movements, three dark slides, waterproof leather-bound case, perfect condition, 42s.—Guthrie, Borington, Edinburgh.

Optimus long-focussed best quarter-plate camera, with three double dark backs, R.R. lens, lock-up bag and four-fold tripod; quite new, cost £10, will take £6.—Apply, Author of "Modern Photography," Uttoxeter.

Lancaster's half-plate International, three slides, case, £4.—Linsell, 41, Dangan Road, Wansstead.

First-class half-plate set for sale; Thornton-Pickard patent tourist camera, double extension, revolving back, brass turntable, including every movement, R.R. lens, Sarjeant's shutter, ash tripod and case complete, as new, cost £17; sell £8 10s. or offers; approval pleasure.—Photographer, Wollaston, Wellingboro.

Full-plate set for sale, excellent condition, best make throughout.—Executor, Florence Villa, Portswood, Southampton.

Quarter-plate set, Underwood's Compactum, only 13s. 6d.—53, Slad Road, Stroud, Glos.

Best whole-plate set obtainable, Watson's Premier camera, three double slides, Watson's R.R. lens (exceptional quality), Caldwell's shutter, Ashford's stand, Eastman's roll-holder, Optimus W.A. lens, all equal to new, cost £30 15s.; price £19, a bargain; approval.—Parlby, 99, Mansel Street, Swansea.

bundries.—Album for photographic prints, imperial folio, oblong, half-bound, 78 pages, 20 by 14, strong card, cream tint, good as new; price 25s.—A. J. Adams, Skelwith Bridge, Ambleside.

Portable dark tent, and 6½ plate printing frames, 10s.; polished ash tripod, 4s.; 10 by 10 mahogany box camera with 10 by 12 R.S. lens, 25s; four Tylar's whole-plate ebonite dishes, lettered, three whole-plate boxes, 10s., or exchange.—Alwright, London Road, Croydon.

Dallmeyer's 3 B, £15 15s.; 5 D, £13 10s.; 1 A, wide angle, £4; Optimus 9 by 7 R.S., with Woolston's time and instantaneous shutter, £4 10s.; Fallowfield's 12 by 10 long-focus camera with five double slides and inner carriers, £10; other cameras, lenses, and apparatus generally. Catalogue post free.—W. Mountain, Royal Academy Studios, 211, Clapham Road, S.W.

WANTED.

Hand-Cameras, etc.—Good hand-camera, in exchange 54 in. Premier bicycle, an excellent machine, halls throughout, practically good as new, or sell £5.—James R. Crowther, Marsden, Huddersfield.

Wanted cheap, Rouch's Eureka quarter-plate hand-camera.—Box 43, St. Helen's, Lancashire.

Talmer's improved hand-camera, quarter-plate; approval.—G. Abbott, Broomhill, Sheffield.

Wanted good hand-camera, Talmer or other, must be cheap.—Dalton, Grove Street, Wantage, Berks.

Lanterns, etc.—Oxy-hydrogen double lantern with all appliances, must be modern make; also a view finder.—Address, H. J. The Cedars, Rickmansworth.

Roll-Holder.—Half-plate Eastman roll-holder, perfect condition; particulars and lowest price.—Address, No. 187, AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.

Half-plate Evans' roll-holder.—Cromac Works, Belfast.

Shutter.—Thornton-Pickard or Kershaw stereo shutter; lenses 3¼ in. centres, hoods 1½ in. diameter.—Dollery, 57, Charing Cross, S.W.

Sundries.—Wanted set of type complete, different size alphabets. Exchange handsome gold hunting Geneva watch, 14 carat, will give for above or anything useful. I have also half-plate dark slide, hook form, cost 16s.; stand, shutter, view finder, etc., what offers? Full particulars given.—No. 189, AMATEUR PHOTOGRAPHER Office, 1, Creed Lane, E.C.

The AMATEUR PHOTOGRAPHER

Telephone N^o 1645 Telegraphic Address: VINEY, LONDON

Offices: 1, Creed Lane, Ludgate Hill, London, E.C.

No. 358. VOL. XIV.]

FRIDAY, AUGUST 14, 1891.

[PRICE TWOPENCE.]

OUR VIEWS.

"To hold as 'twere the mirror up to nature."—*Shakespeare.*

The Monday afternoon "At Home" is discontinued for the present, but will be resumed on Monday, the 7th of September.

OUR VIEWS.—Awards, Monthly Competition No. 27. "The Hayfield—The People's Journal Photographic Competition, Success of Mr. Alex. Pitkethly, Sec. of the Leith Am. Phot. Soc.—The "Pall Mall Budget" and the *Photographic Quarterly*—Photography in 1868; "Nothing new under the Sun"—Photographs of General Interest, Suggested Competition, Successful Photographs to be Reproduced—The Brussels Exhibition—The AMATEUR PHOTOGRAPHER "Monday Evenings"—Leeds Photographic Exhibition—One of the Oldest Amateur Photographers—The Halifax Camera Club—What is thought of the Criticisms in the *Photographic Reporter*.

LEADER.—Printing.

ILLUSTRATIONS.—"Wood above Campfer" (a View in the Engadine), by William Muller.

LETTERS.—Exhibition Rules (Puzzled)—Custom House Charges (Etheldred Dillon)—Photographic Convention (W. Bedford)—Glasgow Exhibition (W. Goodwin)—Reduction of Railway Fares (H. Selby)—Isle of Wight (J. G. Livesey).

ARTICLES.—Photographic Procedure (Wall)—Instantaneous Photography (Harrison).

REVIEWS.—Sun Pictures of the Norfolk Broads.

NOTES.—From Edinburgh—The Blackfriars Photographic and Sensitising Company.

HOLIDAY RESORTS.—North Wales as a Field for Photography (by John A. Hodges)—A Holiday in Holland (by James B. Wilson)—Falmouth (by E. Kitto).

SOCIETIES' MEETINGS.—Cambridge—Croydon Camera Club—Holborn—Jersey—Lewisham—Tunbridge Wells—Sydenham.

EDITORIAL DEPARTMENT.—All Literary Contributions, Queries and Answers, Photographs for Competition or Criticism, Books or apparatus for Notice or Review are to be addressed to the Editor, AMATEUR PHOTOGRAPHER, 1, CREED LANE, LUDGATE HILL, LONDON, E.C. (All Communications should reach the Editor on Tuesday).

TRADE ADVERTISEMENTS are received up to Tuesday morning.

TERMS OF SUBSCRIPTION.

UNITED KINGDOM.....	Six Months, 5s. 6d.....	Twelve Months, 10s. 10d.
POSTAL UNION	" 6s. 6d.....	" 13s. 0d.
OUT OF POSTAL UNION	" 7s. 9d.....	" 15s. 3d.

PUBLISHING DEPARTMENT.—All letters containing Subscriptions, Orders, Remittances, SALE AND EXCHANGE Advertisements, or other business matters for the AMATEUR PHOTOGRAPHER are to be addressed to the Publishers, HAZELL, WATSON, AND VINEY, LD., 1, CREED LANE, LUDGATE HILL, LONDON, E.C. (SALE AND EXCHANGE Advertisements, at the charge of Three Words for One Penny, can be received as late as WEDNESDAY MORNING.)

"Amateur Photographer" 1891 Lantern Slide Competition (Fourth Year).—Prizes: Gold, Silver, and Bronze Medals, and Certificates in each class. Competitors to enter only one class; every competitor to contribute ten slides, and a "lantern slide portrait" of him or her self.

CLASS I.—Landscape, Sea Pieces, and River Scenery, with or without figures.

CLASS II.—Portraiture and Figure Studies, to include in-door or out-door pictures.

CLASS III.—Architecture, Interior or Exterior.

CLASS IV.—The Fine Arts, which may include copies of Pictures, Engravings, Sculpture, Art Metal Work, China, Bric-a-Brac, etc.

NOTE.—Every Competitor must send descriptive Notes.

Past prize-winners will be awarded "Nippee" or progressive medals, should they win a medal of the same value as that which they have been awarded in past Lantern Slide Competitions.

All slides must be received on or before the 30th September, 1891.

RULES, CONDITIONS, AND ENTRY FORMS will be forwarded on receipt of stamped addressed envelope. The application should be endorsed, "LANTERN SLIDE COMPETITION," Editor, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C.

THE AMATEUR PHOTOGRAPHER "Monthly Competition," No. 27—"Hayfield"—has a smaller number of entries than any previous competition. This is in part due, no doubt, to the almost universal wet and dull weather during the hay harvest.

First Prize (Silver Medal).

A. J. LEESON Birmingham.

This competitor sends us "A Good Load," a picture which shows care in composition, and light and shade. It was taken with a whole-plate R.R. lens *f*/11, and an exposure given of 1-10th of a second at 2 p.m. on a sunny day in the middle of June. The print is on Whatman's home-salted and sensitised paper (ammonio-nitrate of silver), toned for one minute in a borax bath.

We award no second prize, as the remaining photographs are only of average merit. The following will be reproduced in the September *Photographic Reporter*:—"Carting Hay, Amberley," by A. L. Spiller; "A German Hayfield," by Ernest Winn; "At the Stack," by Herbert C. Bentley; "Another Load for the Stack," by William Maugham.

On the 4th July the *People's Journal*, a leading Scottish weekly claiming a million readers, offered two or three prizes for the best pictures sent in to a photographic competition; subject open. As the result, Mr. R. Fleming Johnstone, Edinburgh, and Mr. Alex. Pitkethly, Leith, were treated equally, and each awarded a silver watch; the respective pictures being "Caerlaverock Castle," Dumfries, and "Neiapath Castle," Peebles. It is only three months since Mr. Pitkethly carried off a similar prize, offered by the same paper for the best article on "Amateur Photography," limited to 1,000 words, and which was published in the AMATEUR PHOTOGRAPHER at the time.

THE *Pall Mall Budget* of the 6th inst. contains a reproduction of the photograph, "The Future Master," by the Countess Loredana da Porto Bonin, which was issued as a frontispiece to the last number of the *Photographic Quarterly*.

SPENDING an hour or two in the peaceful silence enforced by the Committee in the library of the Camera Club, we opened at hazard a volume of the "Illustrated Photographer" for 1868, and found much to interest us. Mr. A. H. Wall, writing of the amateur photographer of that day, says: "He is a constant reader of all the photographic journals, and would be were they twice as numerous and double their present cost. Photographic editors know him

not only as a seeker for information, but as a valuable and useful contributor always ready and eager to help where he can, and to aid or please his photographic brethren in every possible way. . . . The reason is plain; it is all summed up in the simple word—Love." We found that at that date the "walking-stick tripod" was a fact; that a Camera Club existed; that it was generally believed that the "new mania" for "stamp portraits" would prove a very lucrative branch of the photographer's business, the only cause for regret being that users of the apparatus would have to pay the inventor a royalty of £5 per annum. We found sufficient to prove that the old adage, "there's nothing new under the sun," is as true in connection with photography as in other matters.

A CORRESPONDENT suggests that in order to induce our subscribers to send in photographs for reproduction, and to illustrate this journal, we should offer prizes for "photographs of general interest." This we are willing to consider, but as the photographs are rather required to be of general interest than to be sent as competitive pictures, we do not see our way to give the AMATEUR PHOTOGRAPHER medals, but shall be pleased to arrange a system of marks by which those sending photographs shall participate in awards much of the same character as those made in our Quarterly Examinations, photographs to be entered every month, and marks given for "general interest," the four photographs securing the highest marks to be reproduced one in each week during the next month. It goes without saying that the photographs must be technically good, but otherwise no restrictions will be made save that the work must be that of the sender. Our readers in all parts of the world will by this means have it in their power to assist in the work of illustrating this journal and increasing the interest taken in photography. Before drawing up conditions, we shall be glad of any suggestions, and must express many thanks to our subscriber for the suggestion.

A CORRESPONDENT has sent us a list of the awards made at the late Brussels Exhibition; we thank him, as for some reason the Secretary overlooked us. This should not have been, as he did not hesitate to send us an advance proof of the prospectus of the exhibition for revision prior to printing and circulating it. See our issue of the 10th of April last.

If those of our readers who intend entering our next "Quarterly Examinations in Photography" will kindly send in their names, we will send them a copy of the syllabus of the course, which sets out all the questions, thus enabling the student to work up his subject. The general rules will be identical with those already in force.

It has now been definitely arranged that the AMATEUR PHOTOGRAPHER "Monday evenings" will commence on September the 28th, when Mr. Philip H. Newman will deliver a lecture on "Composition," based upon that which he delivered last season before the members of the London and Provincial Photographic Association. The lecture has been prepared especially for photographers, amateur and professional, and has for its object the inculcation of the laws of composition in figure and landscape work, both as to line and light and shade. The lecture will be illustrated by means of the optical lantern, and special attention will be called to Harding's principles and practice of arts, and reproductions of many of his admirable illustrations of good and bad composition will be shown.

Admission to the "Monday evenings" will be by ticket, which will be sent upon receipt of stamped addressed envelope.

It will be well to make early application, as the room at our disposal will only hold a limited number. We shall shortly make further announcements with regard to our "Monday evenings," which we propose shall be held fortnightly. Any of our readers who have suggestions to make as to subject to be demonstrated, etc., will be conferring a favour if they will write us at an early date.

WE note that in addition to the medals offered at Leeds by the Fine Art Gallery Committee, the Leeds Photographic Society have decided to offer one silver and six special medals for competition amongst its own members.

A SUBSCRIBER writing to us says:—"It may interest you to know that I am an amateur photographer, and I believe one of the oldest in England, as I commenced my first experiments when the announcement was made in the *Lancet* that it was possible to prepare a paper which would give the impression of any print or other object interposed between it and the sun, *but that the prints could only be examined by candlelight, as no means of fixing them had been discovered.* This fact might fix approximately the date of my commencement of photography!"

THE Halifax Camera Club have now taken possession of their premises, 12, Crossley Street, Halifax, and the President of the Club, Mr. Edward J. Smith, delivered a very excellent address to the members and friends on the opening night. We regret that the calls upon our space will not permit us to publish the address. The Club has already a very considerable number of members and an energetic executive. We have no doubt it will become a thriving institution.

It is interesting to note what others say of our work. We recently received the following:—"I have carefully looked over competition prints Nos. 20 and 23, and studied them in the light of the *Photographic Reporter*, and feel sure that I shall have gained very materially in my knowledge of what is good in a photograph. I write to thank you in the most sincere manner for your kindness in lending them to me. Your efforts on behalf of the art are well known and highly appreciated, and I feel sure that such disinterested kindnesses as you have shown to myself and others will bear fruit in the advancement of the art to a yet higher platform than it now stands upon."

PRINTING.

It is by no means an uncommon complaint from novices that photography is a charming hobby till it comes to the printing and toning, and judging from the number of prints we see from good negatives which are spoilt in the final operations there is evidently cause for complaint. In the first place it is too often the case that an amateur pins his faith to one particular printing out process, which may or may not be suitable, and most probably is not suitable for every negative he produces.

Ordinary albumenised paper is perhaps the favourite, and the one that gives the least successful results with every class of negative. It has a tendency to loss of detail in the deep shadows, even with good "silver printing" negatives; when, however, we have to deal with negatives of inferior quality, such as too often produced by amateurs, with a flat, thin, or poor negative image, ordinary sensitized paper is very inferior in results. Its sensitiveness is not very great, and the resulting prints are either all half-tone or else masses of white and dark. Too often the operator, in the hope either of saving time, or from ignorance or careless-

ness, places his printing frame in the sun, with the result that the prints thus obtained are flat, poor, or void of all contrast. To send such prints to us for criticism is, we are

penetrative power, and consequently the deposit forming the image has less protective power or less density than with diffused light. Sunlight should never be used for printing

"AMATEUR PHOTOGRAPHER" COMPETITION PICTURES.



WOOD ABOVE CAMPER. A View in the Engadine.

BY WILLIAM MULLER.

sorry to say, merely a waste of our time and postage. We can but "roughly handle" them, and are actually unable to form any definite opinion on the merits or demerits of the picture as it should appear. Actual sunlight has great

out on albumenised paper unless a rough proof is required. Even with hard, full-of-contrast negatives the results obtained by sun printing are inferior to those which may be obtained by other means, such as dodging the negative,

coating it on the back with matt varnish, and wiping off the dense high lights. In fact, we often feel impelled to print in large type at the head of our editorial column, "Correspondents must not forward silver prints for criticism which have been printed in the sun."

There are no less than six printing processes besides albumen paper to choose from, and it is not a difficult matter to so adjust the printing process to the negative as to obtain the very finest results possible. The six processes are: Gelatino-chloride, either ordinary or matt; kallitype; platinotype; bromide; alpha, and carbon. With gelatino-chloride we have practically two means of obtaining results of different characters—the ordinary or highly-glazed paper giving us the most perfect process for obtaining good results from weak, thin negatives; the matt-surface chloride giving rather less contrasted prints. Kallitype also enables us to adjust the developer so that it is possible to obtain different results with different classes of negatives, and we hope to be able in the next few weeks to give our readers a leader upon this process, which is not so well known as it deserves. Platinotype is, again, another process which will give us results differing in quality with the treatment of the paper, that is, by the adjustment of the temperature of the developer. The two latter processes are not, strictly speaking, development processes, because there is always some image visible.

We now come to bromide, alpha, and the carbon processes. These three are strictly development processes, no image being visible at the conclusion of insolation. Bromide paper is certainly the one of these three most generally used, and it is quite possible, by choosing either a slow or rapid paper and adjusting the duration of exposure and the developer, to obtain good results from almost every class of negative. One of the faults, if one may call it a fault, of bromide paper is the colour of the image, the black or gray not being pleasing to all; still, it is possible by subsequent treatment of the paper to obtain warm tones with great ease. Alpha paper is, we venture to think, by no means in general use, the difficulty of obtaining regular tones standing in the way of its adoption by the general run of amateurs. The carbon process has never received the attention it deserves, the objections, so far as we can gather, being the non-keeping properties of the paper when sensitised, or the bother of sensitising it, and the invisibility of the image.

In conclusion, we should strongly advise amateurs to extend their practice in printing processes, as it is possible, by careful choice of the paper and careful work, to obtain prints of every shade of tone from warm red black through yellow to bluish or purplish black.

Letters to the Editor.

EXHIBITION RULES.

SIR,—Mr. Goodwin evades rather than answers the modest little question for which I asked a definite reply from some one in authority. I wanted to know if, under existing rules (those adopted for the Glasgow Exhibition, for instance), one picture of a set of four which took a medal was eligible to form one of another set of four for competition. Mr. Goodwin replies that I "should regard the picture in question as promoted with its three companions to championship." Now, apart from the picture never having taken a whole medal all to itself, is not Mr. Goodwin a little satirical in recommending all medalled pictures, even when rewarded in bunches, to compete in champion classes? Is he not slightly poking fun at the large majority of medal takers? Does he not know that not more than one in twenty, or perhaps fifty, would have the ghost of a chance in a champion class, and would, not to put too fine a point upon it,

look supremely ridiculous at that giddy elevation? I think Mr. Goodwin will see that under the present absurd rules a vast quantity of medalled pictures become burked. They are probably better than the ordinary run of photographs, but would have no chance in the champion classes, and are excluded from any other, and therefore lost to exhibition, while the ordinary classes are open to any obscure rubbish that has escaped being medalled. Perhaps the Leeds authorities will kindly enlighten me now Glasgow has failed to do so. PUZZLED.

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CUSTOM HOUSE CHARGES.

SIR,—Inspector of foreign photographic goods is a misprint for "importer," the firm referred to being Messrs. Shew, of Newman Street. I did not mention that the developer was Cristallo. However, I am in correspondence with the Custom House on the subject. The quantity imported was six bottles, each containing 400 French grammes—I do not know the English equivalent. I have received to-day a letter from the agents stating that the duty is 8s. 6d., and not, as previously charged, 16s. 9d. I am, however, forwarding a sample bottle to be tested.—Yours truly, ETHELDRED DILLON.

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THE PHOTOGRAPHIC CONVENTION OF THE UNITED KINGDOM.

SIR,—In justice to Mr. H. P. Robinson and to the Photographic Convention I think it ought to be explained that Mr. Robinson, though he felt compelled to decline the Presidency of the Convention at Edinburgh next year, did so on the sole ground that he feels physically incapable of undergoing the necessary exertion. It was certainly from no disinclination to accept the invitation of the Council that Mr. Robinson declined the office.—I am, etc., WILLIAM BEDFORD (President).

August 8th, 1891.

* * * *

GLASGOW EXHIBITION.

SIR,—The announcement that we have extended the time for entry till 20th August has brought me a number of enquiries as to the latest date for sending in pictures. I regret that we cannot make any change, and the last day must be 22nd August, as per prospectus.—Yours, etc., WM. GOODWIN (Hon. Sec.)

Glasgow, Aug. 10th, 1891.

* * * *

REDUCTION OF RAILWAY FARES.

SIR,—With reference to the memorial initiated by my society with a view to obtaining a reduction of fares to photographers and photographic societies, I regret to inform you that at a meeting of superintendents held at the Railway Clearing House on the 29th May last, it was resolved that the application could not be granted.—Yours, etc., H. SELBY

August 6th, 1891.

(Hon. Sec., W. Lond. Phot. Sec.)

* * * *

ISLE OF WIGHT.

SIR,—In response to the query of F. S. Worsley, who bears a much-honoured Isle of Wight name, please allow me to say that the richest district of the Isle of Wight in picturesque beauty is the southern part of the island, comprising the Undercliffe, a lovely stretch of country extending from Shanklin at its eastern extremity to Blackgang at its western. Sheltered on the north by the lofty chalk Downs, and open on the south to the ozone-laden sea breezes of the Channel, cool in summer and mild in winter, there is not a more health-giving and nerve-restoring retreat in England that I am acquainted with. To the artist and poet the Undercliffe is a perfect little paradise. At every step a new picture or a charming bit of picturesque character is met with. I strongly advise amateur photographers to make Ventnor their headquarters, where there is a dark-room fitted with water supply, sink, etc., for the use of readers of the AMATEUR PHOTOGRAPHER. They will find it to be in the centre of the Undercliffe scenery, and a good point to start from on daily excursions to other parts of the island by road or rail—the former in preference, as the ordinary fares by the island railways are very high. I can confidently recommend the "Queen's Hotel," the "Crab and Lobster Hotel," and "Rayner's Temperance Hotel," and shall be pleased to answer, as a disinterested amateur, private enquiries as to any other accommodation required.—Yours, etc.,

JOHN G. LIVESAY.

Cromartie House, Ventnor, Aug. 10th, 1891.

Photographic Procedure.

BY E. J. WALL,

Author of the "Dictionary of Photography."

SECTION I.

THE CAMERA AND ITS APPURTENANCES.

(Continued for page 81.)

Focussing Screen, or Ground Glass.—The focussing screen consists of a sheet of glass, ground on one side, which is next to the lens, and on which the image projected by the lens is visible.

As the picture seen upon the ground glass will be reproduced by the sensitive surface to some extent correctly, so far as regards light and shade it is obvious that we must so arrange our subject as to make it present that grouping that we desire to finally obtain; to do this it is, of course, necessary to know something of the rules of art, and for these rules recourse must be had to such standard works as H. P. Robinson's "Pictorial Effect in Photography," "Picture Making by Photography," and "Burnet's Essays," edited by the same hand; still, we can mark our ground-glass in a certain way, as to give us the leading points to be

observed in composition. Fig. 28 will show how to mark the screen, and the following explanation will make all clear. FGH I represents the ground-glass, which is ruled with the dotted lines as shown, ABCD being those points of the picture where the principal objects should

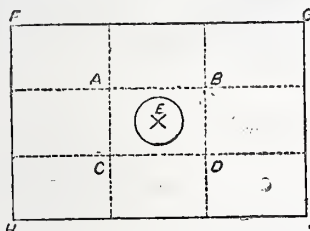


FIG. 28.

fall. E represents the centre of the screen marked in pencil, which is covered by the small microscopic cover-glass.

To make a large screen for smaller plates is by no means difficult; it may either be effected by placing the dark-slide carrier in contact with the ground glass, and marking the outline in pencil, or by drawing diagonals on the focussing screen, and marking on these diagonals the rectangle representing the smaller plate. A screen thus marked is shown in fig. 29; the figure represents a half-plate marked with ABCD for quarter-plate and abcd for lantern size. In using such small plates with a larger camera, it is of course necessary to see that the subject we wish to photograph falls within the limits of the plate.

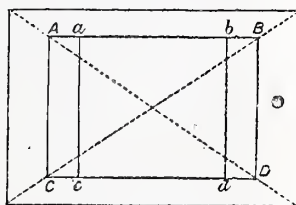


FIG. 29.

Home-made Focussing Screens.—Unfortunately, glass is not quite so strong as cast iron, consequently it is by no means unusual to find that it may be accidentally broken; or again, the grain of the glass may be so coarse as to interfere with the ease of focussing. A few hints then as to home-made screens may be acceptable. Coarse grain may be improved by laying the glass on some soft firm support, sprinkling with fine emery and water, and rubbing as evenly as possible with another sheet of glass; or a fine water of Ayr

stone well oiled may be used, or the ground glass may be oiled, the only objection to this being that it attracts every particle of dust flying about. A far preferable plan is that suggested by Dr. S. Stolze, which is by using albumen or the white of egg beaten up to a froth and allowed to settle for twenty-four hours, and then diluted with water and flowed over the ground glass and set up to drain and dry; the more the albumen is diluted, the more distinct the grain. Ordinary negative varnish flowed over the ground glass makes it more transparent; the ground glass may also be replaced entirely by plain glass coated with matt varnish, which may be made according to the following formula:—

Sandarac	1/2 oz.
Mastic	1/2 "
Ether	8 "

Dissolve and filter, and add—

Rectified benzole from ..	1—2 "
---------------------------	-------

The more benzole is added the coarser the grain, therefore it is advisable to add this gradually, and after each addition to test it by flowing on to a glass plate and allowing to dry. Lohse has also recommended the use of an emulsion of sulphate of barium, prepared as follows:—

(A)	
Gelatine	90 grains
Chloride of barium	30 "
Water	5 oz.

(B)	
Ammonium sulphate	15 grains
Water	2 1/2 oz.

Soak the gelatine in water till soft, add the barium, and dissolve by the aid of heat, then add solution B, shake well, allow to set, and break the emulsion up into small pieces and wash well, then collect and drain the emulsion, remelt and coat the glass. Or the following is rather less trouble, and gives very fine screens:—

Gelatine or glue	60 grains
Water	1/2 oz.

Soak the gelatine till soft, dissolve by heat, and add—

Boiled milk	1/4 oz.
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Fine grain screens can also be obtained by exposing an ordinary dry plate to actinic light, and developing slightly with an ammoniacal citrate of iron developer as follows:—

(A)	
Citric acid	1/4 oz.
Ammonium carbonate	1/4 "
Water	1 "

(B)

Saturated solution of sulphate of iron.

Add one part of B to six parts of A. This developer produces a green fog, and the plate should be only developed for a short time, then fixed and washed.

Celluloid has been suggested for replacing the ground-glass, and provided it will remain absolutely plane, it will no doubt answer the purpose, but personally I should say there was a very great possibility of grave errors in definition by its use.

When a focussing screen has been broken, a temporary makeshift may be found in a sheet of glass dabbed over with putty or a piece of dough. Or a sheet of tissue paper, parchment, or parchment paper, or even a thin cambric handkerchief, wetted, may be used.

One point alone remains to be considered here, and that is the attachment of the screen to the camera. Some makers merely hinge the focussing screen to the back, so that when the dark slide is inserted, the screen has to be turned up on the top of the camera; other makers so arrange them that the screen is merely moved away from the camera back, the dark slide

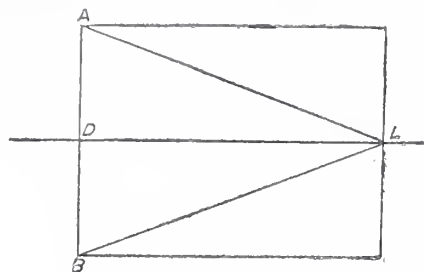


FIG. 30.

being then slipped in between; others again use the screen as a spring clip to keep the slides in register; and the old method, fast dying out, is to have the screen unconnected in any way, so that it has to be laid on the camera or on the ground, where the chances are the foot may be accidentally put through it to its slight detriment. (See also "Testing the Dark Slides.")

Front, Lens, Rising, Falling, and Shifting.—The front of the camera carrying the lens receives various forms, according to the style of camera and fancy of maker; with back extension cameras it is usual to make it a fairly large size, as seen in figs. 18 and 19; with front-extension cameras it is narrowed down to the smallest possible limits. In the first case it usually

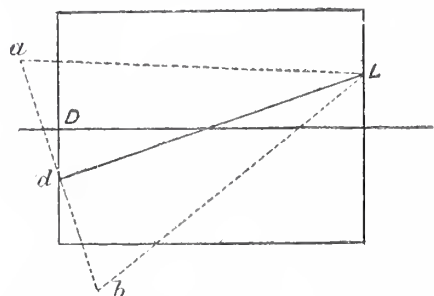


FIG. 31.

slides in grooves, fastened by a milled-head screw; in the second it is slipped into place and held by clips; the only objection to this is that unless the front is held very tight a

heavy lens and an instantaneous shutter may give rise to vibration.

Most modern cameras are now fitted with a shifting front, that is to say, the front, bearing the lens, may be moved up or down, thus including or excluding more of the foreground; this arrangement is seen in figs. 17—22, and is a useful accessory if not used too much, a point to be discussed further on. Some cameras are fitted with revolving fronts on which the lens is mounted eccentrically, so as to enable the same to be brought opposite any portion of the plate.

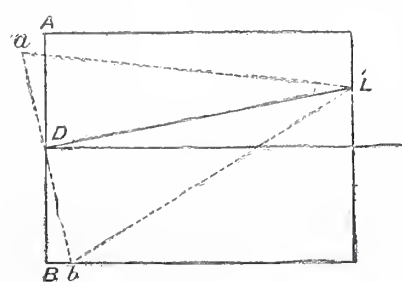


FIG. 32.

A side shifting front is not of much use, but is fitted to some cameras.

We now come to the discussion of the theoretical considerations of the use of the shifting front; it is

necessary to do this, notwithstanding our renunciation of theory, but in this case it is theory in support of practice. We will assume fig. 30 to represent a camera with a lens L , and $A B$ the plate and the axis of the lens; $L D$ is coincident with the centre of the plate D ; then the cone of light forming the image $L A B$ equally illuminates the plate, and definition is also equally distributed over the whole of the plate. Now, in fig. 31 we have supposed that the lens is shifted up; here we shall see that the axis of the lens $L d$ is no longer coincident with D , hence the illumination and definition is no longer equal, because the axis of the lens is at d , and not at D , or at the centre of the plate, and when using lenses which only just cover the plate, the lens may be so

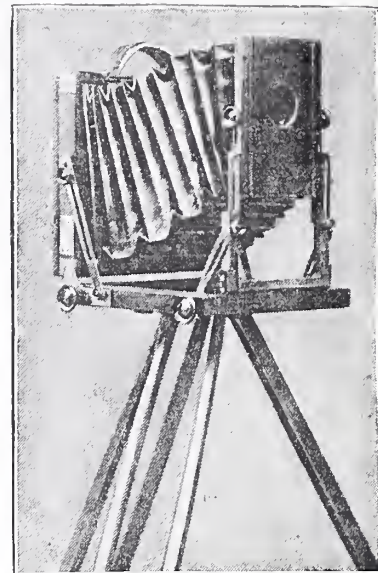


FIG. 33.

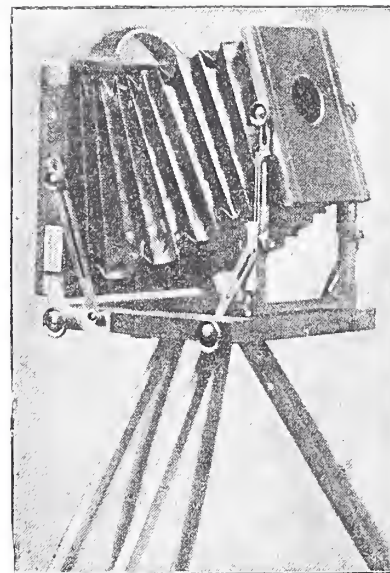


FIG. 34.

shifted as to actually cut off the corners and edges of the plate; if, however, we shift the lens, and at the same time tilt, we then obtain a figure as shown in fig. 32, in which it is obvious much more even illumination and definition is obtained. Such an arrangement is actually shown in the diagrams 33 and 34, which illustrate the latest improvement adopted by McKellen.

This little discussion will also apply to the question as to whether it is better to use the rising and tilting front or swing-back. For Stereoscopic Front, see Stereoscopic Camera.

(To be continued.)



Richmond.—At the meeting on the 7th inst. Mr. Carolin presided. Mr. Cembrano's report as delegate to the Photographic Convention being unavoidably postponed till next Friday, the subject of Home Portraiture was discussed and some interesting examples were shown by some of the members present.

Instantaneous Photography.

By W. JEROME HARRISON, F.G.S.

CHAPTER XIV.—Continued.

BEST FOCAL LENGTHS OF LENSES FOR INSTANTANEOUS WORK.

Distances beyond which all Objects will be in Focus with any given Lens.—The following rule has been stated by Professor W. K. Burton: "To find the nearest object that may be focussed without putting the distance more than just perceptibly out of focus with a given stop, multiply the diameter of the stop in hundredths of an inch by the focal length of the lens."

Let us apply this rule to our favourite "detective" lens of $5\frac{1}{2}$ inches focus, used with stop $f/11\frac{1}{2}$.

$5\frac{1}{2}$ inches = 550 hundredths of an inch.

Diameter of stop = $5\frac{1}{2} \div 11\frac{1}{2} = \frac{1}{2} \times \frac{3}{4} = \frac{3}{8}$ inch.

Distance = $\frac{3}{8} \times 550 = 22\frac{1}{4}$ feet, nearly.

Or, to take a simpler example: With a lens of 12 inches focus used with stop $f/8$, what must be the distance of the nearest object if all objects more remote from the lens are to be in fair focus?

Diameter of stop = $12 \div 8 = 1\frac{1}{2}$ inches.

12 inches = 1,200 hundredths of an inch.

$1\frac{1}{2} \times 1,200 = 1,800$ hundredths = 150 feet.

The rule can also be applied to find the largest stop which can be used, supposing that the distance of the principal object is known:

Divide the distance of the object by focus of the lens, and the result will be—in hundredths of an inch—the size of the largest stop that will not put the distance conspicuously out of focus.

Example: With a lens of 6 inches focal length, and the principal object at a distance of 30 feet, what is the largest stop which will give the "distance" in fair focus also?

30 feet = 360 inches.

$360 \div 6 = 60$ hundredths of an inch

= six-tenths of an inch.

The diameter of the largest stop must not exceed six-tenths of an inch, which would be $f/10$.

Focus Table (Sir D. Salomon's) for Hand-cameras, etc.

Focus of Lens in inches.	Ratios marked on Stops.															
	$f/7$	$f/8$	$f/9$	$f/10$	$f/11$	$f/12$	$f/13$	$f/14$	$f/15$	$f/16$	$f/17$	$f/18$	$f/19$	$f/20$		
	Number of Feet after which all is in Focus.															
4.....	19	17	15	14	12	12	11	10	9	9	8	8	7	7		
$4\frac{1}{4}$	21	19	17	15	14	12	11	11	10	10	9	9	8	7		
$4\frac{1}{2}$	25	22	19	17	16	15	13	13	12	11	10	10	9	9		
$4\frac{3}{4}$	27	23	21	19	18	16	15	14	13	12	12	11	10	10		
5.....	30	27	24	21	19	18	17	15	14	14	13	12	11	10		
$5\frac{1}{4}$	33	29	25	23	21	20	18	17	16	15	14	13	13	12		
$5\frac{1}{2}$	37	31	29	26	23	22	20	19	17	16	15	15	14	13		
$5\frac{3}{4}$	39	34	31	28	26	24	22	20	18	18	17	16	15	14		
6.....	43	38	33	31	28	26	24	22	21	20	18	17	16	15		
$6\frac{1}{4}$	47	41	37	33	30	28	26	24	22	20	20	19	18	17		
$6\frac{1}{2}$	50	45	40	36	33	29	28	26	24	23	21	20	19	18		
$6\frac{3}{4}$	55	48	43	39	36	32	30	28	25	24	22	22	21	20		
7.....	58	52	45	42	38	35	31	30	28	26	25	23	22	21		

The above table will obviate the necessity for most of the calculations we have described. To use it, look for the focal length of the lens to be used in the vertical column on the left-hand side. Then find the stop to be used in the horizontal column on the top. Follow the focal length horizontally, and the stop number vertically downwards, and the number where the two lines intersect shows the

distance in feet of the nearest object which will be in focus as well as all objects beyond it. Thus let it be required to find this distance for a lens of five inches focus, using stop $f/16$. The number at which the lines cross is 14, and no object nearer than fourteen feet to the lens must be focussed upon it, if it is wished to have distant objects also "in focus."

In instantaneous photography it is of great importance to have objects in different planes (especially those which lie within from five to ten yards of the camera) all in fairly good focus at the same time. With a short-focus lens it is possible to get this result with a tolerably large stop, $f/8$ or $f/11$; while with a long-focus lens it would, with proportionately equal stops, be impossible.

One consequence of this depth of definition afforded by short-focus lenses is that a picture taken by a quarter-plate lens with such a stop as $f/8$, and then enlarged to (say) ten by eight, will very probably give a more pleasing picture than one taken direct upon the 10×8 plate with a lens suitable for that sized plate, and also with the stop $f/8$.

In fig. 10 the lens CD forms an image of the point B at B'; and of the point A (which is farther away) at A'.

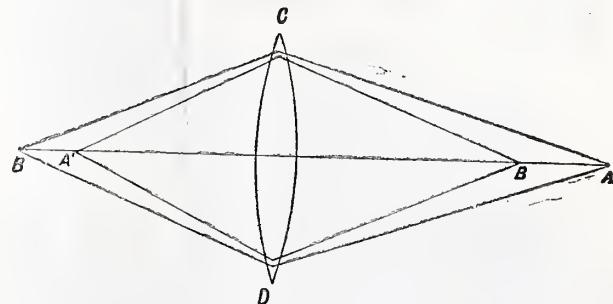


FIG. 10 (WITHOUT STOP).

We will suppose that ST represents the largest stop— $f/6$, for example—belonging to the lens. Let EF represent the ground-glass on which the image is focussed. Then perfect sharpness can only be obtained by having the ground-glass either at A' or at B'. Since it cannot be in both these places at once, it is impossible for the points A and B to be both in focus at the same time.

Suppose we focus upon the point A; then the ground-glass will be, as shown in the diagram, at EF. We get the image of A reproduced as a point at A'. But the image of B appears as a circle or disc, whose diameter is GH. If this disc be more than the hundredth part of an inch in diameter, and with the large stop it will clearly be much more, the picture will look more or less hazy and indistinct.

Now remove the large stop, and introduce one of, say, half its diameter; this will be $f/12$, and will require four times the exposure. But notice the effect in improving the sharpness of the picture (fig. 11). The rays of light can only pass through the central part of the lens CD; and the diameter of the disc of confusion, GH, will be only one-half of what it was before, and it will now probably come within allowable limits.

Let the lens in the two diagrams be a short-focus lens—of five inches focal length, let us suppose. To draw a ten-inch focus lens on the same scale, we should simply have to make each line twice as long. Therefore with stops in the same proportion, $f/6$ and $f/12$, the diameter of the disc of confusion would for each stop be twice as great; and to obtain the same degrees of sharpness as with the five-inch focus lens, we should have to use $f/12$ instead of $f/6$; and $f/24$ instead of $f/12$. Clearly the three-inch focus lens will have a great advantage for instantaneous work.

Size of Camera as Preferred for Instantaneous Work.—This advantage of short-focus lenses is one great reason why instantaneous work is almost universally practised with small cameras, with which short-focus lenses can be well employed. By far the most popular size is the quarter-plate ($4\frac{1}{4} \times 3\frac{1}{4}$ inches), fitted with lenses varying in focus from four to seven inches.

For work on land the whole-plate ($8\frac{1}{2} \times 6\frac{1}{2}$ inches) is the largest size which can be at all conveniently used for general instantaneous work. The lens best adapted to it has a focal length of about eleven inches.

But for work on board ship, much larger instruments can be used with advantage. The fine yachting pictures by Mr. Hyslop, which attracted general attention in 1887-8, were done with a lens of thirty inches focus upon a plate 16×14 inches, and with a stop of about $f/22$.

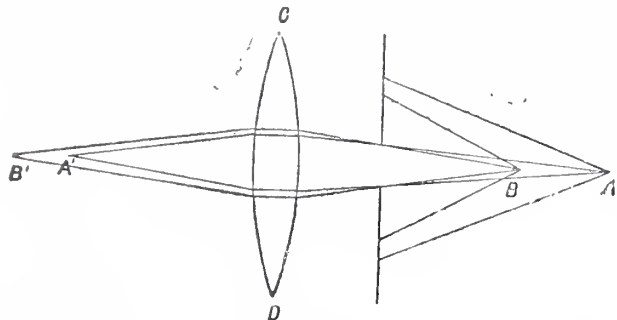


FIG. 11 (WITH STOP),

But a camera of the size necessary for such plates may be compared to "a small cottage;" and the operator thereof must be in a position to direct operations generally. On a tug-boat hired for the day, for example, good work might be done with such an instrument. On the other hand, the casual occupant of a penny steamer or an excursion yacht will do well to still adhere to the humble but convenient and easily bestowed popular quarter-plate.

Care of Lenses.—Many lenses are ruined, or seriously injured, by want of care on the part of those who use them. It is to be wished that lens-makers would provide their lenses with *two* caps, one fitting on each end of the mount; but the second cap can be purchased for a trifle. A lens should not be unnecessarily exposed to light, for most kinds of glass change colour (to yellow or violet) by prolonged exposure to sunlight. When not in use, each lens should be wrapped in a piece of wash-leather and kept in a tin cylinder. It is also important that lenses should be kept in a *dry* place, and where they will not be subjected to sudden change of temperature. To remove dust from the lens, use a camel-hair brush; or if this is not sufficient, an old, soft, silk handkerchief. Any dirt may be removed by a few drops of alcohol. Do not unscrew the lenses; and, generally speaking, meddle with them as little as possible. An india-rubber band fitting the lens-tube tightly is useful to prevent dust from entering the diaphragm slot, and it also serves to prevent the stops dropping out when in use.

Advertising.—Messrs. Davenport and Co. write us:—"Kindly omit our advertisement from your journal this week. We have received so many applications for our catalogue, the issue of which is unavoidably delayed, that we think it will be well not to advertise our goods at all this week. You will doubtless be pleased to hear that the AMATEUR PHOTOGRAPHER has brought us more orders than all other journals combined, and that we have received orders and enquiries not only from all parts of our own country but from India, Germany, and France; these latter countries being in each case directly traceable to your medium."

Reviews.

Sun Pictures of the Norfolk Broads. By Payne Jennings. (London: Jarrold and Sons, 3, Paternoster Buildings, 7s. 6d.)

This charming collection of photographs of the Norfolk Broads was sent us by the General Manager of the Great Eastern Railway Company, Mr. Birt, and are excellent examples of the well-known skill of Mr. Payne Jennings. They are printed in collotype by the Photo Printing Company, Ashstead, Surrey, and exhibit without exception the most even printing we have seen. It is no light task to reproduce one hundred photographs in collotype. The book before us speaks well for the artist and the mechanical printer.

It is also a very handsome token of the enterprise which characterises the Great Eastern Railway Company and their General Manager. A very few years since, the Norfolk Broads were unknown to the public. Photography has done much to popularise them; and not a little of their advance to public favour is due to the writings of Dr. Emerson. We believe the AMATEUR PHOTOGRAPHER can lay claim to have published an account of the learned doctor's first experiences of the Broads as a field for photography, in the issue of November 20th, 1885, which is illustrated with six reproductions of the doctor's photographs, and for which he was awarded first prize in the AMATEUR PHOTOGRAPHER's first "Prize Tour Competition." Since that date the "Broads" have been a very favourite hunting ground for the advanced amateur photographer, and many of the spots which are illustrated in "Sun Pictures of the Norfolk Broads" have been the subjects of photographs which have gained distinction at photographic exhibitions.

The Great Eastern Railway have now brought the Broads within reach of the multitude, and have inaugurated circular tours, services of cheap trains and delightful excursions by wherries, yachts, and steamers on the Broads, the rivers Bure, Yare, and Waveney. They issue the most complete and perfect guide, pamphlets, and suggestions of where to go, how to get there, and what to see, and even issue a register of lodgings in Essex, Hertfordshire, Cambridgeshire, Suffolk, and Norfolk, which gives particulars of description of house, accommodation, sitting and bed rooms, nearest station on G.E.R., distance from London, return fares from London, period for which return tickets are available, etc. From a perusal of all these books, a glance at Mr. Payne Jennings' pictures, and our own experience, we feel that we should like to have a roving commission through the whole district, and most confidently advise those who want a complete change of existence, a plethora of photography, any amount of fishing and sport with the gun, to pack up and rush to the Broads. Every information can be obtained of the General Manager, G.E.R., Liverpool Street Station, E.C.



Notes from the Edinburgh Centre.

(From our own Correspondent.)

THIS is in one sense the busy, and in another sense the dull season in amateur photography. All the workers are busy in the field, but the meeting places are closed. Unfortunately, the weather is not at present what one expects and desires in summer, being too frequently wet and unpropitious for outdoor working. On the other hand, when a good day comes, the light has all along this season been of the best, being for the most part clear and with a moderate amount of cloud, giving less trouble than in most seasons with skies. Should any of your readers have not yet determined where to spend their holidays, it may be of advantage to them to know that Scotland is this year not so crowded as usual. There is a general complaint of want of visitors—that is, from the point of view of the hotel keeper and the proprietors of public conveyances. From the point of view of the tourist, and particularly of the amateur photographer, no better condition could arise, as there is always room to be found in the inns, and comfortable seats in coaches and railway carriages are more easily secured. There is also this further advantage that places frequented by sightseers are not so crowded as to make it inconvenient to get an exposure. Taking everything into account, no better time could be had for visiting "the land o' cakes."

Blackfriars Photographic and Sensitising Co.

LAST week we were privileged, through the courtesy of the Company's manager, Mr. W. Gourlie Blackie, to inspect their extensive photographic manufactory at Surrey Row, Blackfriars Road, S.E. Originally the firm confined themselves almost exclusively to the manufacture of silver sensitised paper, and upon the day of our visit the whole of the sensitisers were employed upon that particular manufacture. A very large quantity is produced daily, some fifteen to twenty girls sensitising at the same time, each one turning out two sheets every five minutes.

The Blackfriars Company's paper has deservedly an excellent reputation, and the sale, mostly wholesale and for export, is very large. The *modus operandi* has been so frequently described that it is only necessary to say that every operation is most carefully carried out and a rigid examination enforced of each sheet before it is put into stock.

The Company have introduced, comparatively recently, a gelatino-chloride paper, under the name "Celerotype," which has become very popular. A deterrent to the more general use of gelatino-chloride was found in the fact that other makers were supplying paper of pink tint; this for several reasons was strongly objected to, principally owing to the very inartistic appearance of photographs printed upon it. It soon became evident to Mr. Blackie, who is nothing if not enterprising, that "Celerotype" must be made as white as silver sensitised paper. Some time spent in experiment and the altering of formulæ proved that this could be done, and to-day we understand the sale of white "Celerotype" has very materially affected the sale of the same paper giving a pink tint. The paper can be given a matt surface by squeegeeing on to ground-glass, is easy to manipulate, and gives an abundance of detail equal to any in the market. The following are the instructions for use:—

Printing.—The paper, ready sensitised, is cut to size and placed in the printing frame in the ordinary manner. Avoid handling the surface as much as possible. Printing should be carried on until the print is slightly darker than required for the finished picture; the deepest shadows should have a bronze-green appearance.

Washing.—The prints are washed in two or three changes of water, and are ready for the toning bath.

Alum Bath.—Regularity in toning is greatly facilitated by immersing the prints for two or three minutes in a saturated solution of alum before toning, and then washing slightly previous to placing in the toning bath.

Toning.—Almost any toning bath may be used, a variety of tones being obtained with different formulæ, so that the operator may choose for himself that bath which gives to him the most pleasing results, as tastes differ very considerably with regard to colour.

The following will be found a very serviceable bath, giving the rich purple-black tones so much admired:—

Tungstate Toning Bath.

Tungstate of soda	...	...	...	100 gr.
Chloride of gold...	...	...	...	4 "
Water	...	...	...	20 oz.

Acetate Toning Bath.—No. 1.

Acetate of soda (re-crystallised)	...	...	...	$\frac{3}{4}$ oz.
Chloride of gold...	...	...	...	4 gr.
Water	...	...	...	20 oz.

Acetate Toning Bath.—No. 2.

Sulpho-cyanide of ammonia	...	...	...	100 gr.
Water	...	...	...	8 oz.
Chloride of gold...	...	...	...	2 gr.

Keep Nos. 1 and 2 separate. For toning, take in the proportion of 20 oz. No. 1 to 6 oz. No. 2, and mix 12 hours before using.

Sulpho-Cyanide Toning Bath.

Sulpho-cyanide of ammonia	...	...	...	150 gr.
Chloride of gold...	...	...	...	4 "
Water	...	...	...	16 oz.

This bath tones very rapidly, and gives very rich brown to black tones.

Combined Toning and Fixing Bath.

Water	...	...	...	24 oz.
Hypo-sulphite of soda	...	...	...	6 "
Sulpho-cyanide of ammonia	...	...	...	1 "
Acetate of soda	...	...	...	$1\frac{1}{2}$ "
Alum saturated solution	...	...	...	10 "

Fill the bottle containing this solution with scraps of sensitised

paper, bad prints, etc., which have not been fixed. Filter, and allow to stand for one day; then add—

Water	...	...	...	6 oz.
Chloride of gold...	...	...	...	15 gr.
Chloride of ammonia	...	...	...	30 "

With this bath the prints require no preliminary washing. The prints are plunged direct into the solution, and allowed to remain until the desired tone is arrived at.

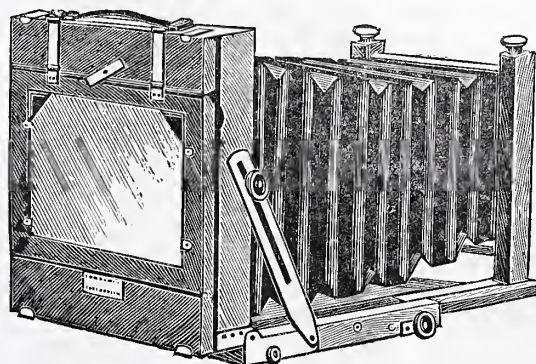
Fixing.—After toning, the prints are washed in two or three changes of water, and placed in the fixing bath, containing—

Hypo-sulphite of soda	...	...	...	2 oz.
Water	...	...	...	20 "

From 15 to 20 minutes suffice to fix.

Washing.—The prints, on removal from the fixing bath, are well washed in water changed as frequently as possible. If the water be repeatedly changed, one hour will suffice. The prints should then be laid in a saturated solution of alum for a few minutes, and again well washed.

The very large sale of paper all over the world induced Mr. Blackie to give his attention to the manufacture and sale of photographic apparatus. Commencing with all that was necessary to properly print a photograph, he gradually branched out into other work, and the Company are now offering many special lines. In cameras, the latest, the "Blackfriars," is a half-plate,



THE BLACKFRIARS.

with three double dark slides, fitted for long or short focus, and has an arrangement by which the back of the camera can be moved to the front, so that in using a wide-angle lens the base-board does not cut off any part of the picture. Sells for £4.

Another cheap and very useful line is the "Perfect" half-plate set, which consists of a well-made camera, dark-slide, achromatic meniscus view lens with diaphragms, a tripod stand, and focussing cloth; the whole kit is offered at £2 12s. 6d., and is wonderful value for the money.

At this time of the year when "Our Boys" are home from school, and desirous of going in for photography, "don't cher know, old chappie," the pater or mater cannot do better than start them with the Company's "Our Boys" quarter-plate set, which includes a camera, lens, tripod, and double dark-slide, all well made and a very capital little "trap to catch a sunbeam."

The Blackfriars Photographic and Sensitising Company are a thoroughly responsible firm, being an off-shoot of one of the best and oldest firms of paper makers and stationers in the kingdom. Our subscribers placing orders with them by post can rely upon receiving goods of first-class quality and prompt execution of orders.

Within the limits of such a notice it is quite impossible to call attention to one tithe of the goods offered for sale by the Company, but those interested will find in the catalogue, which the firm will gladly send free by post upon application, a complete list of photographic materials, paper, mounts, chemicals, apparatus, etc., and in addition much information of a valuable and useful character.

Holiday Resorts and Photographic Haunts.

NORTH WALES AS A FIELD FOR PHOTOGRAPHY.

(Continued from page 100.)

By JOHN A. HODGES.

III.—*Portmadoc—A Coach Ride—Aberglaslyn—The Bridge and Pass—Beddgelert—A Kind Offer—Snowdon—Timely Caution—Carnarvon—The Castle—Penmaenmawr—Sunset Effects—Marine Studies—Other Work—Conway—The Castle—A Striking View—Plas Mawr—Quaint Architecture—More Advice—Aber—Pont Newydd—A Dangerous Climb—The Falls—Further Excursions.*

RELUCTANTLY bidding adieu to Barmouth, we proceed by the Cambrian Railway to Portmadoc, a busy shipping town, offering few attractions to the photographer. Here we shall find the coach waiting to take us, by a delightful route, to the primitive little village of Beddgelert, which we propose to make our next resting-place. Allowing the coach to proceed with our heavier luggage, we ask the coachman to put us down, a mile short of our



Conway.

destination, at the entrance to the Pass of Aberglaslyn, in order that we may contemplate at our leisure the exceeding beauty of the scenery in this justly-celebrated locality. Guide-book writers sometime s use the most extravagant language in describing this favoured spot, but even the most exacting critic must admit that it would be difficult to over-estimate its loveliness. Fortunately for our purpose, its beauty is of such a nature as to permit of justice being done to its portrayal by means of photography. The ivy-clad bridge will probably first attract our attention. To get a good view the low wall by the roadside must be climbed, and a scramble down the grassy slope to the bed of the river effected. Simple matter as this appears to be, it requires care in execution, as a slip would inevitably result in the photographer and his apparatus being precipitated into the deep pool below. Safely down, however, the photographer will be rewarded for his trouble. Seen from this side, the bridge festooned with ivy, the masses of foliage surrounding it, the cliffs, with their dark covering of firs, and the reflection of the whole in the still waters of the pool, combine to form, if the lighting be right and the exposure accurate, a most lovely picture. The view of the bridge from the other side is not nearly so good, but, looking up-stream, some beautiful views, almost Alpine in character, can be obtained.

Proceeding up the Pass, at a point where the river makes a divergence from the road, a very pretty distant view of the village of Beddgelert, with its grand mountain background, will be noted. If the footpath which follows the stream be taken, many beautiful combinations of a more pastoral character will be found between here and the village. Lodging accommodation at Beddgelert is rather restricted, but there are some excellent hotels, of which the "Royal Goat" is the largest. It would be impossible here to give specific information as to quarters, to say nothing of the invidiousness of such a proceeding, but should any readers desire it, I would willingly give privately such information as I can on the subject of lodging and hotel accommodation, etc., if they will write me through the Editor, who has my address.

Beddgelert abounds in pretty "bits." The picturesque old stone bridge in the village will attract attention; there are also two other extremely pretty bridges over the Gwynant, the second of which is a very primitive structure built of rude slabs of stone and rough baulks of timber; an old mill near by adds materially to the picturesqueness of the view. At Beddgelert we are on the borders of Snowdonia, and the monarch of Welsh mountains can easily be ascended. As the ascent, however, does not afford much work to the photographer, speaking generally, I do not propose to describe it in detail. From the well-trodden orthodox tracks the views are for the most part too expansive to afford successful photographs, though fine studies of rock and precipice can be obtained by the experienced mountaineer, who alone should venture to leave the main routes. One peak in particular, Crib Coch, affords some grand views of the nature just referred to, but to obtain them involves some of the most dangerous climbing in the district; in fact, more than one tourist has lost his life there.

From Beddgelert we can conveniently reach Carnarvon by means of the narrow-gauge line from Rhuddu. Beyond the Castle, a really fine ruin, Carnarvon is not a very enticing place for the photographer. If, then, we walk leisurely through the town, and for about a quarter of a mile along the Quay to a point from which we may obtain a good general view of the Castle, with the harbour and shipping in the foreground, we shall probably arrive at the conclusion that we have seen enough of Carnarvon. The distant views of the Castle are by far the best; the interior is very disappointing, being a mere shell, and affording nothing worthy of a plate. We propose, therefore, to take the train to Penmaenmawr, which, besides possessing many attractions of its own, has the additional advantage of forming a capital centre from which to explore a considerable district.

Penmaenmawr is undoubtedly the prettiest of all the Welsh seaside resorts. There are few streets or roads, but the houses, chiefly of the villa type, are dotted promiscuously about the lower slopes of Penmaenmawr mountain and the adjacent hills, giving an unconventional, picturesque aspect to the place. Lodging accommodation is distinctly good, and except in August, at the height of the season, cheap. Rabid Conservatives, however, should be informed, for the sake of their peace of mind, that it is the favourite summer resort of Mr. Gladstone. Penmaenmawr affords one the opportunity of securing some fine sunset effects, the sun setting in the sea. A coasting vessel or two is generally lying at one of the jetties, the outline of which, standing out in bold relief against a fine sky-effect, provides material for some good marine work. At Dwygyfylchi there is a pretty glen, in which many charming views will be found. It is only two miles further, over the Sychnant Pass, to Conway, a place which should provide the painstaking photographer with material for several days' work. The Castle naturally first claims one's attention. The view from the Quay is striking, especially if one is sufficiently fortunate to secure a good cloud effect. The interior of the Castle also affords some interesting architectural studies, notably the banqueting-hall and the entrance-gateway, or keep.

There are many quaint old buildings in Conway, chief among which is Plas Mawr, a delightful Elizabethan mansion, now the property of the Royal Cambrian Academy, who will, on application, permit photographers to use their cameras in the interior. Here the photographer with whom interior work is a speciality will find much to detain and enchant him. The ceilings, richly carved, and the walls, lined with oak wainscoting, remain in very much the same condition as when the house was erected in 1591. A dull day should be chosen, if possible, for the difficulty is to avoid hardness in the negatives, owing to the fact that whitewash has been used with far too great liberality on the ceiling and walls of this relic of a bygone age. Aber, distant by rail five miles from Penmaenmawr, is another excursion which should on no account be missed. It is a tiny village romantically situated at the entrance to one of the prettiest of Welsh glens. There is much to photograph, both in the village and in the glen, and probably the reader will deem the place worthy of more than one visit. About half a mile from the village a very pretty view presents itself. The stream tumbles down its rocky bed under an old stone bridge (which carries the road to a farm, near which a very picturesque old mill will be found), the distance being closed in by a background of rolling moor and mountain. The walk can be continued up to the Aber Falls, which, however, forms a difficult subject to do justice to in a photograph. Here a word of caution may not be thrown away. Some of the guide-books recommend the tourist to ascend the mountain by the Falls, in order to avoid the necessity of returning by the same route. This, however, to a photographer unaccustomed to climbing, and encumbered with apparatus, would be a difficult and dangerous proceeding, and one which he would do well to avoid. Care also will be required in scrambling about to find view-points on the rocks below the falls; a slip is easily made, and carrying a camera and tripod renders it a difficult matter to readily recover one's balance. This caution, be it noted, is intended for general application, and does not refer particularly to this locality. Several accidents, fortunately of a minor character, have happened to photographers, within my own knowledge, which a little caution might have avoided, therefore it will probably be conceded that the advice is not without value.

If a prolonged stay is made at Penmaenmawr a day should be devoted to Bangor and the Menai Straits and Bridge. Another profitable excursion would be to take train to Bethesda, and from there walk up the Pass of Nant Francon as far as Lake Ogwen, where refreshments may be obtained. The lower portion of the Ogwen, in the vicinity of Bethesda, affords some good river-views. Lyn Ogwen is a wild-looking piece of water, but rather difficult to successfully photograph, although, in combination with a good sky, an effective picture may be made. The Falls of the Ogwen are on the right of the road, just before the cottage is reached, but to get a good point of view it will be necessary to drop down the bed of the river for about a quarter of a mile, when Try-faen, one of the finest of Welsh mountains, comes into view, and adds greatly to the pictorial effect. If the sun should happen to be shining, the exposures must be made either early in the morning or late in the evening; at midday the sun is right in front of the camera from all the best view-points.

(To be continued.)

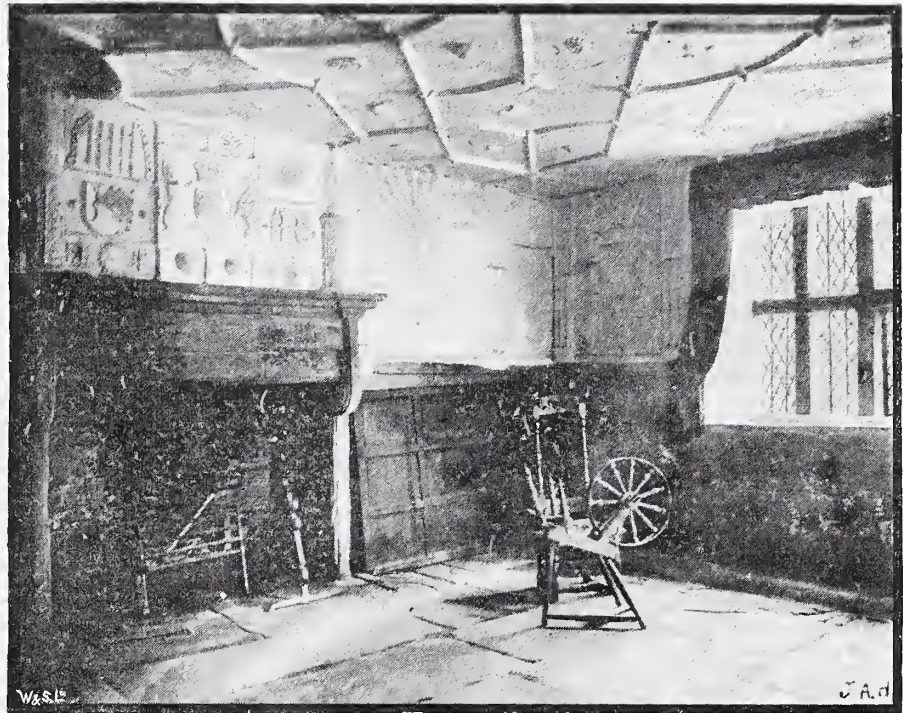
Brussels Exhibition—British Awards.—Diploma of honour: J. P. Gibson. Silver gilt medals: F. P. Cembrano, Lyd. Sawyer, W. L. Colls, Window and Grove. Silver medals: W. Clement Williams, Werner and Son, Wilson and Co. Bronze medals: J. Carpenter, H. Flather, Martin J. Harding, A. Hendrey, J. W. Kenworthy, Morgan and Kidd, T. H. Morton, W. W. Winter, York and Sons. Honourable mention: Edgar G. Lee.

A HOLIDAY IN HOLLAND.

By JAMES B. WILSON.

LEAVING the bustle of the City behind at Liverpool Street, at 8 p.m., one can hardly realise on waking a few hours later on the s. s. *Cambridge* whether one is still dreaming, or entering a country where the very river seems asleep, and the banks like painted canvas, so quiet they seem, so trim and precise the clusters of cottages we pass, with their gaily painted walls and carefully pruned hedges; but we are soon brought back to consciousness and the nineteenth century by the custom house officers, who have boarded us at Brielle. We have no trouble with our apparatus or our precious plates, and half an hour later are alongside a quay of a busy town.

We got ourselves and luggage to the nearest hotel, and, after breakfast, set out to choose our "shots." Photographically speaking, Rotterdam is not particularly interesting. A plate may be exposed on Erasmus' house, in the Kerkstraat, or the "House of a Thousand Terrors," in the Groote Market, where tradition says in 1572 some two hundred citizens took refuge from the Spanish soldiery, who butchered a large number of the inhabitants. One or two more on some of the canals of this



The Refectory—Plas Mawr.

"Venice of the North," and work is over, and we stroll about, admiring the wonderful quays and locks, visit the Boyman's Museum, and at night the park, to hear the band.

A day and a half in Rotterdam, and we left by the Holland railway, passed Schiedam, with its three hundred gin distilleries, and in half an hour arrived at Delft, where we were compensated for the photographic barrenness of Rotterdam.

The pinnaced Oos-Poort—a remnant of former glory—the interesting Stadhuis, and the "New" church opposite being safely "boxed," we visited the old palace—now a barracks—and were shown the spot where William the Silent was murdered in 1584. Leaving this town, once famous for its pottery, we are soon in the Hague, waiting for night to change our plates.

The Hague is rather disappointing; it is too bright, too busy, after the old-world town just left. After dinner we enjoyed the music of a French opera at the theatre; in the morning exposed two plates on the Hall of Knights; one cannot leave the Binnenhof Square without thinking of the noble men judiciously murdered there. Two pretty pictures were taken on the canal in front of the Scheveningen tramway, two more in the streets, and we take the camera in and go to Scheveningen by the steam

tram, have a dip in the "briny," and return to the Hague, visit the Maurits Huis Gallery, where Potter's "Bull," Rembrandt's "Anatomical Lesson" are among the collection.

The Hague not being attractive enough for another day, we went on to Leyden, and once more felt out of the world. Our lens would not do justice to the grand old Town Hall, the first stone of which was laid in 1574, the year Leyden sustained its memorable siege. Two more plates, also spoilt, were exposed, and we are ready to leave this city of Rembrandt, and go on to its sister town. Haarlem only detained us to see its cathedral and organ, also some instruments of torture—a legacy of Spain. As rain was threatening, we did not undo the camera.

Amsterdam at last, and a miserable wet evening, which makes us appreciate the Parisian like company in the well-lighted café under the Hotel de Mille Colonnes—professed town-haters we were a few hours ago. We were up early next morning with lovely weather, and secured two plates of the Royal Palace in the Dam, built on 14,000 piles; another of some splendid gables at the corner, and one of the Old Mint Tower; then retraced our steps towards the Rhenish Station, and got two of the Crystal Palace. This finished our plates, so we thought it time for breakfast, after which we did some of the lions of this busy city, saw the ghostly white marble hall and galleries of the Royal Palace, the fine collection of Dutch masters in the National Gallery, strolled through the smaller streets in search of "shots," and the day is over. In the morning we started for Hoorn, passing Zandaam, where Peter the Great learned shipbuilding, and where windmills seem to *grow*, like trees in a forest; arriving at this "deadest of dead cities," find even here vandalism is rife, for nearly opposite a most exquisite specimen of sixteenth century architecture is a hideous red-brick church—as if there were not enough churches without it; through another mediæval street runs a tram line, but I rejoiced to see the tram had ceased to run, at least for a time.

The old Water Gate makes a perfect picture from the jetty, especially as we were fortunate enough to get a group of fishermen in their picturesque, loose-fitting costumes, huge *sabots*, and knickerbockers, puzzling any one to tell the difference between the length and breadth. We took a picture from each side of this unique tower. A quaint old gateway—apparently restored and repainted—with the moat and some signs of crumbling ramparts formed the next picture. Then a windmill tempted us, as did a dip in the Zuyder Zee, and by this time the inner man was getting very ravenous, and we visited every house we came across in the least resembling a "public," getting nothing more substantial than *schnapps*. At last we found an hotel in the Market Place where the landlord spoke French and a little English—the only man in Hoorn, he said, who spoke any language but his own; and while doing justice to our steak and the genuine Guinness which he brought out when he found we were English, we discovered that the Water Gate and Arsenal had been taken on the same plate. These had to be taken over again, and a plate exposed on the old Weigh-house with its immense wooden scales and piles of round Dutch cheese in front; another on a typical Dutch boat on a canal, and we said good-bye to our jovial host and regretfully left this city of the past by an uncomfortable vehicle for Alkmaar. Arriving rather late, we were glad to get supper and a bed. After a very substantial, if not *recherché*, breakfast next morning, had another look round and exposed our only plate on the Stadhuis with the church of St. Laurence. The really beautiful Weigh-house we left untouched, having used two more plates at Hoorn than we intended, and our stock being left at Amsterdam, where we returned in the afternoon, and changing some plates in a cupboard, we exposed one on the junction of a canal, an immense sheet of water to be seen in the middle of a city; another on collection of gables in the Damrak, a third on an exquisite bit of canal filled with boats behind the Damrak, and the Rembrandt Place and statue from our hotel window claimed the fourth.

Leaving for Rotterdam the next day, I missed my friend and camera, he having left by an earlier train, and did not stop at Utrecht, so beyond a fresh supply of cigars I got nothing there, but during my short stay I more than once regretted that my camera had gone before.

Antwerp is our next goal. Passing a fine church at Dordrecht (which ought to have been visited), an hour's journey through a not uninteresting country brings us to Roosendaal, the Belgian frontier station. We have no difficulty with the customs with our plates or apparatus, and another hour brings us to Antwerp.

Antwerp is not very striking from the rails, but, passing along the wide boulevard lined with fine houses, one forms a good opinion of it long before reaching the Place Verte. We only exposed three plates on the Cathedral; a photograph does not do justice to the tower; the work seems too fine to be reduced to a small plate and preserve its delicacy. L'Eglise de St. Jacques, in which Rubens was buried, taken from the door of the *estaminet* opposite, was not a success, our lens was of too long focus. Of L'Eglise de St. Charles we had three views, one of the front, another of the tower behind, and a third of the interior. The amateur with time should take two or three of the interior of the Cathedral, permission for which is not difficult to obtain. Here we saw Rubens' masterpiece, "The Descent from the Cross."

Here one is struck by the great contrast between the beautiful and highly-decorated interiors of churches in Catholic countries and the sombre, puritanical edifices of partly Protestant Holland.

I dragged the camera up the 600 steps of the tower, and got a panoramic view from the top. The Hotel de Ville, with a group of allegorical figures in front, made a good picture, but our lens could not negotiate the old Guild Houses near, but early next morning we got two snap-shots of milk and vegetable carts drawn by dogs. There is a very good collection of pictures by Flemish artists to be visited, also the interior of the Hotel de Ville and the Church of St. Paul. There is no lack of amusements in Antwerp.

Brussels is rather beyond the limit of my paper, but I may mention two good plates of St. Gudule and one of the new Palais de Justice.

This makes a charming little tour for a camera; it is near home, inexpensive, and every town teeming with interest. No passport is required, no restriction to photography, and officials invariably obliging. A knowledge of French is always useful, especially at railway stations. At all the principal hotels English is spoken to some extent, and always French.

I think a quarter-plate camera is the most convenient size to travel with, taking half a dozen double backs. For Holland the lens should not exceed $3\frac{1}{4}$ in. focus. Mine was 4 in., and spoilt several pictures. For a second lens, I shall take one about 8 in. focus next time I go, for on the few occasions I wanted a longer focus lens, a 7 or 8 in. would have answered better than my 6 in. After exposing six dozen plates and using the same lenses as at home, I have come to the conclusion that the exposure must be shorter in Holland than in England, as the greater part were over-exposed.

I will leave it to others to praise Holland. In a few years the increasing number of visitors will destroy its quaintness—the change has begun, and we shall see a "Grand Hotel" in Hoorn and plate-glass windows in Alkmaar.

FALMOUTH.

By E. KITTO.

THERE is, perhaps, no locality in the West of England which presents more varied scenery or offers greater attractions to the amateur photographer than the neighbourhood of Falmouth. The town of Falmouth is uninteresting enough; it is irregularly built and possesses no buildings of architectural pretensions. Some of the newer terraces are very pleasant and command most delightful views of land and sea. Falmouth harbour is one of the grandest in the kingdom, perfectly land-locked, except the entrance, which is very imposing, being guarded on either side by castle-crowned heights. On the west side is Pendennis headland with its fine old castle, built in the reign of Henry VIII. On the east side stretches the headland of Roseland with St. Anthony Lighthouse at its base, whilst on an inner promontory stands St. Mawes Castle (the largest round castle in England) which also dates from Henry VIII. Near it nestles the village of St. Mawes.

On alighting at the railway station, the artist will at once get what is perhaps the best general view of Falmouth obtainable, and is well worth a plate. Just under the station are the docks, with plenty of shipping subjects. Large vessels are often lying alongside the wharfs, or are in the great graving docks undergoing repair, whilst in the waters around are numbers of vessels of all kinds. Steam tugs towing vessels in or out of harbour and the various crafts continually running about afford good snap shots.

The Castle Drive, one of the most charming esplanades imaginable, is in close proximity to the railway station. It encircles Pendennis heights, about midway from the sea, and discloses a perfect panorama of ever varying beauty, which will demand many a halt. On the summit is Pendennis Castle, interesting in character and beautiful in tone. Descending therefrom by a gently sloping road, and following the footpath westward, we may reach the town by a circuit past Gyllyngdune, Gyllyngvaes bathing beach, and the Swanpool, each point possessing characteristics of its own. Or we may reach the town by a direct way in about ten minutes from the station. The Custom House quay, Fish Strand jetty, and Market Strand pier (from whence all excursion steamers start) each afford facilities for special studies. Kimberley Park, with its varied foliage, including many sub-tropical plants, and its pond with swans and ducks, is sure to tempt the lover of landscape. Flushing, a village on the north side of the harbour, is reached by a halfpenny ferry from Greenbank, or by penny steam launch from Market Strand. It is worthy of study. From here and along the path to Trefusis Point, lovely views of Falmouth are presented, which compel attention. From Trefusis we follow the path to Mylor Creek and church. The church is a beautiful old edifice, and with its well kept graveyard suggests absolute repose. Near the east end is an exceedingly fine old yew tree,

"Its branches waving o'er the dead,
Its roots entwined about their head."

St. Mawes, St. Anthony, and Percuil River are reached by steam ferry, which runs several times daily; return fare, 6d. Distant one and a half miles northward from St. Mawes is St. Just Creek, with its beautiful little church. A little way off, on higher ground, is the village, from which a lovely view of the river Fal, winding its circuitous route, is obtained. From St. Anthony we are within a few minutes' walk of Place House, and St. Anthony church immediately behind it. A further walk of a mile brings us to St. Anthony lighthouse; each of these objects calls for an exposure, as will probably several other points *en route*, as the panorama presented—looking across to Falmouth, its harbour and bay—is lovely beyond description. From Percuil, the farthest reach taken by the steamer, we have a pleasant walk to St. Gerrans village and church, and thence to Porthscatho, a pretty, clean fishing village.

The trip on the river Fal to Truro must certainly be taken; distance ten miles; daily steamer excursions, return fare, 1s.

The Fal has been declared by Her Majesty the Queen to equal the Rhine for beauty. It abounds in the most enchanting scenery, and has the appearance of a succession of lakes, well wooded on either side to the water's edge.

On its banks we see several fine residences, including Porthgidden, where the late Canon Phillpotts resided; Trelissick, the seat of C. Davies Gilbert, Esq.; and Tregothnan, the noble mansion of Viscount Falmouth. Just below Tregothnan is King Harry Passage, with its steam ferry, and beyond on high ground is the village of Malpas; all these subjects are worthy of a plate. Two miles further, at the head of the river, is Truro. Here the cathedral is sure to draw lovers of architecture. Its exterior is disappointing, owing to the unfinished state of the building. Some good work is to be seen, however, especially the south porch. The interior is very imposing. The reredos, bishop's throne, the choir, lectern, pulpit, and baptistery are alloverly elaborate, and make really good pictures.

There are also daily railway excursions from Falmouth to Truro and *vice versa*; return fare, 1s.

Helford River equals the Fal in its own particular charms. There are frequent steamboat excursions thither, and a four-horse Jersey car runs on Friday afternoon; return fare, 1s.

Helford village is very picturesque, especially at high water, when it makes a lovely picture. Many good views are to be had on the various reaches of the river.

The churches of St. Anthony in Meneage, and Manaccan are within easy walking distance, and both make interesting studies. A special feature of Manaccan church is a large fig tree growing out of the south-west angle of the building. Its trunk is about three feet above ground, and its branches spread over the south side and reach half-way up the tower. The village of Manaccan also makes a pretty picture taken from the west side.

Bosahan, a fine mansion in the Elizabethan style of architecture, recently built by A. Pendarver Vivian, Esq., is very near, and should not be missed.

Penjerrick, the charming residence of Miss Fox, distant about three miles from Falmouth, has one of the most lovely landscape gardens imaginable. Here many tropical and rare plants may be seen flourishing in the open air. The view from the house, looking seaward, is particularly fine. These grounds may, by kind permission, be viewed on any Wednesday or Friday on presentation of card.

The far-famed Lizard district may be reached from Falmouth easily. Well-appointed Jersey cars run three days a week. Perranporth, a favourite little watering-place, on the north coast, is also reached twice a week by Jersey cars; return fare to each of these places, 4s.

Many other points worthy of notice I must reluctantly leave untouched, as I have already too far trespassed on your valuable space. The whole neighbourhood of Falmouth is so very lovely that it is difficult to know where to stop in a descriptive article.

One great advantage which is sure to impress our photographic visitor is the purity and transparency of the atmosphere, which tends to render pictures crisp and brilliant, and gives to the happy operator a healthy, vigorous tone.

Societies' Meetings.

Cambridge.—At the ordinary meeting on the 5th August, Mr. F. H. Sanderson, Vice-President, in the chair, the subject on the programme was given by Mr. George H. Potts, on a "Practical Demonstration on Toning Silver Prints," commencing by giving his preference to Otto Scholzig's ready-sensitized paper, and showing some untuned prints to the members to show the depth of printing before toning by the acetate bath, also the borax. Some discussion then took place on "The Prevention of Blisters." After the prints going through the different baths, the members on examining them considered all highly satisfactory. The paper was listened to with great interest, and after a cordial vote of thanks to the demonstrator the meeting closed.

Croydon Camera Club.—An interesting excursion was made on Saturday 1st August, by river to Greenwich, during which a number of exposures, chiefly of the snap-shot order, were made. Mr. H. Neeves succeeded in obtaining an unconventional sunset view on the Thames, which, besides possessing artistic charm, is noticeable for including the sun, which prints out distinctly from the rest of the sky, although no retouching or other doctoring of the negative has been resorted to. The following are the fixtures: For August 15th, excursion to Mitcham and Hackbridge; 17th, lantern night; 22nd, excursion to Banstead and Woodmanstern; 29th, excursion to Mersham.

Holborn.—Last week was the "outing week" of the Holborn Camera Club. It has been the custom of the Club, during the past years, to attend the annual Southern Counties' Cyclists' Camp, where they have had a large tent erected for the members and also a dark tent, with the device "Ye Olde Red Lamp." They have proved very successful in the past, and the present outing seems to have been as successful as any. The camp was this year held at Dorking, and a very enjoyable week has been spent by the members of the Club who attended it. The enjoyment was, however, rather spoilt by the wet weather during the week. The camp was very prettily situated not far from the main street of Dorking. It was pitched on a ground high and sloping, looking over the pleasant town of Dorking and right away to Box Hill, and backed by a long belt of trees.

Jersey.—The monthly meeting was held on the 7th inst., the President, Captain T. Lamb, in the chair. A large number of photographs were laid out for competition—the result of two excursions. Mr. Hammond Spencer's photographs were *facile princeps* among those of the excursion to Bellozanne. His view of "The Priory" being the most popular, secured him the first prize. The competition at the next excursion (Trinity Manor) was much keener, and the members present had to select the best of over thirty photographs, including some stereoscopic views. The result of the ballot showed Miss Le Cornu's "Lake at Trinity Manor" to be the favourite, with a score of six votes; closely followed by a little "picture," quarter-plate size, on Watson's matt-surface paper and of sepia tone, entitled, "Shady Part of Drive," by Mr. Andrews, which scored five points. Miss Le Cornu's print was on ordinary albumenised paper, happily composed, and of a very pleasing tone. Colonel Jackson's photograph, 10 by 8 in. platinotype, of "Trinity Manor," came next, and Mr. Tom's "Trinity Manor Lake," with three votes each. For the excursions' annual gold medal, up to date, Colonel Jackson stands first with thirty-three votes; Mr. Spencer twenty; Captain Lamb, eighteen. After settling particulars of the next excursion and other matters of detail, Mr. Andrews read his paper on "Colour Photography," a most interesting and instructive

lecture, which it is hoped will be published in extenso in the *Photographic Reporter*. During the discussion which ensued, the President showed photographs taken with an ordinary plate and also with an isochromatic plate and yellow screen. These showed clearly the advantages of the latter process. Mr. Toms showed and explained the chromo-collotype published in the *Photographic Quarterly* of July, 1890. This was much appreciated, as some members did not understand the method employed to produce an apparently coloured photograph. A vote of thanks to the lecturer, Mr. Andrews, closed the proceedings of a very instructive meeting.

Lewisham.—On August 7th, Mr. Castle, who was in the chair, gave an account of the outing to Virginia Water and Windsor, which was a great success. Several members who went passed round negatives, prints, and lantern slides, most of which were very fine indeed. The Secretary had brought a large number of splendid views taken during his holidays in the Channel Islands, lantern slides of which will, it is hoped, be seen on the screen during the winter session, when there is sure to be a very large attendance. Next meeting is August 21st—"Development."

Tunbridge Wells.—The 61st ordinary meeting was held on the 6th inst., Mr. D. Howard in the chair. Mr. Ernest Russell Ashton was duly elected a member. The question of affiliation of societies with Photographic Society of Great Britain was adjourned to next meeting. Mr. J. W. Morgan showed his newly invented patent hand-camera, which was much admired both for its ingenuity and simplicity of action. Prints were shown of the Mayfield excursion and also of

the excursion to East Grinstead on Bank Holiday. In accordance with a long-standing arrangement the members of the Association met the Brighton Photographic Society, at East Grinstead, on Monday August 3rd. By mid-day the weather was tolerably fine, and a start was made for the church, a prominent object for many miles around. The members then visited Sackville College. The college was founded by the Earl of Dorset, early in the 17th century, as a home for aged men and women. There is a chapel attached, handsomely decorated, while its dining hall is very quaint, with its large chimney corner, minstrel gallery, and oak panelling ornamented with various coats of arms. The place also derives additional interest from its being the home for many years of the celebrated historian, poet, and theologian, the late Rev. J. Mason Neale, D.D. The members were invited to come again later in the season, for the purpose of photographing the interiors of some of the charming little rooms in the building. After a good many views of the quadrangle, etc., had been taken, the party adjourned to tea. Wishes were exchanged for another meeting of the two societies on a future occasion.

Sydenham.—The usual fortnightly meeting was held on the 4th inst., the President in the chair. In place of a discussion Mr. Zimmer gave a demonstration of alpha paper, printing and toning which was much appreciated by the members. On Saturday 8th inst., Mr. Piggott conducted an outing from Reigate to Betchworth, where the members had the opportunity of photographing wind and water mills, sheepfolds, cornfields, etc., from which several satisfactory pictures have resulted.

To Correspondents.

All communications for these columns are to be addressed to **The Editor, "Amateur Photographer," 1, Creed Lane, Ludgate Hill, London, E.C.**

RULES.

1. Write clearly and distinctly on one side of the paper only.
2. Write each Query or Answer on a separate sheet of paper.
3. Write the name and address legibly on the back of each communication, and sign all Queries and Answers with name or *nom de plume*.
4. All matters for these columns **MUST** be received by **TUESDAY MORNING'S POST**.
5. The Editor does not undertake to answer questions by post.
6. In answering Queries, correspondents are requested to mention, in every instance, the *number and full title of the query* referred to.

QUERIES.

4936. **Washers.**—Which is the best washer (automatic) for prints and negatives, or, if it is better to use separate vessels, will some of your readers please say which are most efficient?—NOVICE.

4937. **Windermere, etc.**—Friend and myself going walking tour in Lake District, for week or ten days. Any particulars of good route for camera, and good but moderate accommodation (no dark-room required) will be appreciated by—AFANATIC.

4938. **Enlarging, Exposure for.**—Will some amateur photographer please tell me amount of exposure required for enlarging from quarter-plate negatives, ordinary density, to whole-plate with Lancaster's Combination Multum in Parvo enlarging camera, plates used Ilford ordinary, lens as supplied with camera, also for Eastman's bromide paper, daylight, indoors, good or dull?—W. L. P.

4939. **Exposure.**—What exposure should I give and what stop should I use to copy a cabinet-size photograph, same size, in open daylight, with a whole-plate 10 in. focus portrait lens? Any hint on the light will be thankfully received.—D. B.

4940. **Mountant.**—Can any brother amateur give me a good recipe for a mountant that will keep any length of time? Have been using starch, but this does not keep very long. Any information on this subject will greatly oblige.—MOUNTANT.

4941. **Borax Toning Solution.**—I shall be glad to know if the borax solution can be kept after toning, and if same can be re-used by addition of 1 dr. of gold?—CARLOS.

4942. **Gloucestershire.**—I purpose spending a fortnight in Gloucestershire, commencing 15th inst., on ordinary bicycle with half-plate camera. I should be very glad if some brother photographer would give me any information (per post if possible) as to the best places to visit? Also any hints as to carrying camera on machine?—HODGES (address with Editor.);

4943. **Mounting.**—How can I preserve gelatine solution after mounting in optical contact? After once using, the solution goes bad and will not stick. I melt half-ounce Nelson's hard gelatine in one pint of water.—WINTER.

4944. **Pyro Developer.**—I first dissolved the citric acid and then added the pyro; were these mixed in proper order? What quantity of sulphite of soda should I use as a preservative; would 3 oz. be sufficient? Will Mr. Ellis or "Pen" again oblige?—WINTER.

4945. **Shutter.**—Will anyone recommend a good shutter working close to the plate for time, and about 1-10th sec., and where it can be bought?—BRAY.

4946. **Celerotype, Mountant for.**—I wish to make a mountant for Celerotype; will you be good enough to say the best formula, and the method of applying it?—RING.

4947. **Raised Film.**—What is the cause of the raising of film on negatives, so that the image appears in relief? How do you prevent it and how increase it?—HUTCHER.

4948. **Burnishing Prints.**—After toning and washing silver prints, I have tried to obtain a burnished surface by squeegeeing on to plate glass, after having used castile soap and French chalk for cleaning the glass. The prints obtained the gloss quite satisfactorily, but whenever they are again damped with mounting medium the glossy surface has disappeared. Will someone please point out where I am wrong? How will Aristotype prints turn out, treating them in the above way? Liesegang recommends a solution of wax and turpentine, and I have not succeeded in getting a very even coating upon the plate glass.—SARDONYX.

4949. **Rapidity of Plates.**—Could someone oblige by giving me the relative rapidities of the following plates: Ilford Extra Special (Red Label), Paget xxxxx, Thomas's Extra Rapid, the Mawson plate, the Waterloo plate, and Marion Inst. plate? If rapidities of all cannot be given, as many as possible might be given. Also I should be glad to know which is the most rapid plate in the market, and if it is as easy to manipulate as the Ilford Extra Special.—A. GROVES.

4950. **Switzerland.**—Will some brother amateur kindly inform me (1) whether there is any difficulty or risk in getting plates through the Customs; (2) whether good brands of plates can be procured at Berne or Thun; (3) whether exposure in the higher parts of the country differs very much from exposure in England?—ROVER.

4951. **Bolton Woods.**—I shall be staying at Ackworth, near Pontefract, and shall be glad if anyone can tell me the best point from there, to stay a few days, so as to photograph in Bolton Woods.—W. H.

QUERIES UNANSWERED.

July 17.—Nos. 4863, 4865, 4866, 4868, 4871.
31.—Nos. 4900, 4904, 4905, 4907, 4909, 4912.
Aug. 7.—Nos. 4921, 4923, 4927, 4934.

ANSWERS.

4902. **Ayr.**—Here are several places for "Another Beginner" to exercise his camera. Pick out best spots in and around town first day; second day walk through Wallace town, Whittleys, St. Quivox, on to Anchincive Bridge (over River Ayr). You may return to town by footpaths through woods, enter at bridge and keep alongside river as much as you like, striking Cunnock Road into town; third day, Burns' Cottage, Monument, and Alloway Kirk, "Brigs o' Doon," Greenan Castle on shore, and return by shore, or if

time permits continue along coast to Dunure and return by road; fourth day, Maybole for Chlzean Castle (seat of Lord Ailsa), apply for permission to Factor in Maybole; fifth day, Dalmeilington, for Loch Doon, Ness Glen, and other places on River Doon; sixth day, Manchine for Ballochmyle Quarries, Bridge and River Ayr. Other days may be spent at Duodonald, Kilmarnock, and, in fact, almost anywhere near. If you wish to take a good selection, a fortnight is not sufficient.—SARDONYX.

4906. **Lens.**—In my answer to the above last week, for f/6 please read f/16.—PEN.

4917. **Hard Water.**—This will answer your purpose quite well.—PEN.

4918. **Filtered Rain Water.**—Quite suitable. Do not bother to boil it.—PEN.

4918. **Filtered Rain Water.**—Filtered rain-water will do for making up toning baths, if the rain has not been collected from a dirty roof.—CAILLON.

4919. **Sensitised Paper.**—Blackfriars, Scholzig's, or Zimmermann's are all good papers, and will answer equally well with acetate or borax bath.—CAILLON.

4919. **Sensitised Paper.**—It is impossible to recommend one make before another, as the acetate and borax baths, if properly mixed, suit all papers.—PEN.

4920. **Eastman Films.**—Use a deep dish a little larger than the film. Soak well previously in water. It is not a bad plan to float the film on the developer at first. Plenty of developer should be used.—E. DILLON.

4922. **Hypo Eliminating.**—It is most important that negatives should be perfectly free from hypo. To test for traces of hypo, use:

Potassium permanganate	2 gr.
carbonate	20 "
Distilled water	40 oz.

A few drops of this pinkish purple liquid should be added to the last washing water, which will turn greenish if hypo be present.—PEN.

4922. **Hypo Eliminating.**—Unless all traces of hypo are removed from negatives and prints, they will turn yellow and fade sooner or later, according to the amount of hypo still left in. The simplest test for hypo is to make a solution as follows:—

Potassium permanganate	2 gr.
Carbonate of potash	20 "
Distilled water	1 oz.

Put a drop or two of this liquid into a measure, and fill up with water, and allow a print or negative to drain into it. If the faint pink tinge turns green, hypo is still present.—CAILLON.

4924. **Conway or Colwyn Bay.**—Having been a good deal in North Wales, I think you would make it a more central point at Chester than at Conway or Colwyn Bay, but the latter is the most central place.

From Chester you could go to Llangollen and get good negatives, including Maids of Llangollen's House, etc., as also Wrexham Old Church; you are also on the main line for Rhyl, Llandudno, Betteys-Coe and vicinity, and lots of other places, as also there are plenty of good views to be got in Chester itself, being a very old-fashioned town. But if you prefer any of the above, I would say the latter one for living. I would suggest Chester would be the cheapest and well worth the visit, etc.—E. L. BROWN.

4925. **Scratches.**—The best way to prevent the scratch printing through is to carefully retouch it with a pencil, or to spot out with a fine camel-hair brush and some sepia.—CAILLON.

4926. **Photographing in Germany.**—No restrictions at all in said cities, except the Berlin Thiergarten, where only hand-cameras (not tripod cameras) can be used. English-size plates to be had (only in half-plate size = 12 X 10½ cm.) from Talbot, Berlin C.

If other size used, inner frames (9 by 12 or 13 by 18 cm.) recommended.—R. T.

4928. **Isle of Wight.**—Comfortable quarters can be had at "The Balconies" (Mr. Bircham), board and lodging being about 30s. per week. A similar establishment is Child's Boarding House. In each case it is necessary to engage a room in advance during August, or disappointment may ensue. No permission is required to photograph the chimes or Carisbrooke Castle. I should advise making Sandown headquarters for that part of the island lying between Bembridge, Herringford, and Blackgang. The rest of the island could be best worked from Newport, whence Freshwater, Yarmouth, Cowes, etc., can easily and cheaply be reached.—H. MACLEAN.

4930. Double Albumenised and Sensitised Paper.

Ammonium chloride	10 grammes
Spirits of wine	15 c.c.
Water	135 "
Albumen	450 "

Mix the first three thoroughly together, and then add the albumen gradually. Pour out into a clean dish and float the paper on it for a minute, taking care that no air bubbles are left underneath. Then hang over a line to dry. When dry, float it again for the same time. It would be far better to buy the albumenised paper, as it is very difficult to prepare it satisfactorily. To sensitise, float the sheet for three minutes on the following bath:—

Silver nitrate	10 grammes
Water	100 c.c.

Drain carefully so as not to waste the solution, and hang up to dry.—CAILLOU.

4930. **Double Albumenised and Sensitised Paper.**—You had better buy your paper ready albumenised, as it is a tiresome process. Sensitise as follows: Mix a bath of the strength of 60 grs. of nitrate of silver to the ounce of distilled water; use sufficient solution to cover the bottom of dish to the depth of a quarter inch. The paper should not be very dry. Use small pieces (say double size required), lay one end on bath, and gradually lower the other, pushing it along till it all floats (not soaks). After one minute gently raise the sheet and break any hubbles there may be, with a feather. Float from 2 to 4 min. (the longer time in winter). When sensitised hang up by one corner to dry. Use gas or lamp light for all these operations. If you want the paper to keep more than a day or two, float it (when surface dry) upon a solution of citric acid (30 grs. to the ounce). The sensitising bath can be used over and over again; a solution of silver should be kept of double the strength of the above, and after each sensitising process, 2 drms. should be added to the old bath, thus keeping up the strength. Add a few drops of a solution of carbonate of soda to the old bath now and then to prevent acidity. It will also be improved by placing the bottle containing it in direct sunlight occasionally, and decanting the liquid from any precipitate there may be.—PEN.

4931. **Instanto Camera as a Hand-Camera.**—Messrs. Sharp and Hitchmough, of Liverpool, will do the job for you, and do it well.—PEN.

4932. **Adhesive Paste for Crystoleum.**—Try a thin starch paste.—PEN.

4933. **Toning Solution.**—I should say three months at least.—PEN.

4935. **Developer.**—Either pyro or hydroquinone will answer equally well. The latter best for instantaneous exposures. Use the formulae on the plate boxes.—PEN.

4935. **Developer.**—I have just developed some of Thomas' extra rapid plates with hydroquinone and potash, and they fiddled badly and some left the glass altogether. I then substituted pyrogallol acid and ammonia, which certainly gave better results, and developed much quicker. Perhaps the temperature had something to do with it, as well as prolonged development in the first case.—S. E. K.

EDITORIAL.

SPECIAL NOTICE.—We are very pleased to find that replies in this column are so much appreciated, but we should be very grateful if those requiring advice would send their letters to us BEFORE TUESDAY MORNING'S post if possible. The time occupied in replying in this column is very considerable, and owing to the often late receipt of letters, many matters have to be left over each week. This we much regret.—ED: AM: PHOT:

F. M. GURRIN.—It is not our rule to pay for the articles mentioned in your letter.

W. S. HORTON.—Letter duly received.

A. B. H.—You will be quite satisfied with the changing bag.

CHAS. H. RIGG.—Copy of syllabus shall be sent you in a few days.

S. E. K.—We shall seriously consider your suggestion.

F. E. BUTCHER.—We are completely at a loss to understand the colouration of the negative, unless by some means there was iron in the hypo. In judging of the speed of your lens you have neglected to take into consideration the elongation of focus which would ensue from your placing the camera so near; the focal length of the lens as used by you would be $\frac{3}{4}$ instead of $\frac{7}{8}$ in., consequently the aperture of the diaphragm

would be reduced to $f/22$, and it is rather trying to a xxx. times plate to expect an over-exposed picture with 1-15th of a second.

C. T. R.—We should certainly recommend you to enter for our competition. We think you would find either matt-surface, Celerotype, or Ohernetter paper, or else Kallitype, give you the most pleasing results. Shall be pleased to see some more work.

R. H. DENNING.—(1) Purple tones are not dependent on the paper and toning bath, but on the negative. Still, you might try adding 30 gr. of bicarbonate of soda to your toning bath and using it at 70 deg. F. (2) Gold should never be added to a bath while toning, but always six hours before using. (3) If you add 30 gr. of bicarbonate of soda to your solution of gold as well as adding the soda to the bath you will get out of your difficulty. (4) We should prefer the Paget xxxxx. and $f/16$ for cap off and on, and slow development with the developer recommended by the makers. (5) Over-development makes the negative very dense and slow printing. It is a matter of experience to say how long development should be continued; if you like to send us up some negatives we will tell you which are correctly developed. (6) The paper you name is a good one, but see answer to first query. (7) By all means use one half of your R.R., generally full aperture, which will be about $f/16$, and cap on and off with a xxx. plate in sunlight should be sufficient. (8) Yes, oiling the screen makes it easier to focus. Mr. Wall will give full instructions in a week or two on this point in his articles. The oil may be afterwards removed by using ammonia and water. (9) We always return prints sent us for criticism when a stamped addressed envelope is enclosed.

PHOTO. MECH.—You made a grand mistake; you used iodised collodion instead of plain or enamel, and the bleaching of the image is due to combination of the iodides with the silver image; soak your negative in one part of methylated spirit and five parts water till soft, then apply a weak ferrous oxalate developer with bromide in it. Write again if in difficulty.

CAMERAIST.—We still adhere to our statement, and the calculation which you refer to in the AMATEUR PHOTOGRAPHER was an oversight. You can prove it practically at once by drawing a square each side of which shall measure 2 in.; this will contain obviously 4 square in.; by enlarging this twice by linear measurement you get a rectangle having two sides of 2 in. and two sides of 4 in., which will, however, contain 8 square in. As the rule, which we maintain is right, applies inversely to reduction, you can at once prove it practically by drawing a rectangle 15 by 12 and setting your camera up at the distances you say are correct and noticing the size of the image on the screen; then when you have done this, set the camera up at the distances given by Mr. Wall and note the size of the image.

CYCLE.—The finest cement we know for making glass-bottom wood dishes is kaolin made into a cream with commercial silicate of soda. This not only adheres firmly to glass, but will also make the wood itself waterproof.

PYRO.—(1) You have set us no mean task to answer this, as there are no two authorities who agree; still, we have tried to collect as much information as possible. Undoubtedly paper which is albumenised on a very hot day will blister more than when a damp atmosphere is used; in the case of double albumenised paper incomplete coagulation or deficient adherence of the first film of albumen to the paper will be a predisposing cause; this may probably be obviated to some extent by coagulating from the back. If the albumen is too much decomposed, it most certainly will blister. Probably a very short floating on a very strong silver bath might also cause it. The remedies to the above are obvious. (2) There is no best preservative. Some use one thing, some another, and the only thing we can recommend you to do is not to keep your paper; the longer you keep it and the stronger the preservative you use, the worse the prints. Still, one bit of advice. Many say apply the preservative to the back of the paper, but it should be applied to the front. (3) The camera we recommended was No. 1. You know, of course, you are entering upon a very troubled sea, which requires plenty of ballast, a wise head, and plenty of scientific training to steer safely over. If we can help you further we shall be pleased to do so.

J. E. G.—You ought to be able to turn out first-class work in your yard. We cannot reply at full length here, so must write you by post.

PERICARP.—We know the stand you refer to, and it may be thoroughly relied upon for such work as you will want abroad. We should, if we may, advise you to get a long-focus lens.

G. R. COURTNEY (Whitehall Park).—The developer does not require an excess of pyro when using the fixed alkalis. You may rely upon the maker named in your letter with absolute certainty.

BLANCHE.—The best plan would be for you to only neutralize sufficient of the bath for your purpose. Or you can discard the ammonia in favour of carbonate of soda and use distilled water, filtering the bath after use and keeping in the dark.

A. R. P.—With such material as you have you ought to be able to turn out perfect pictures of darkest London. (1) The camera was not upright, and the picture has nasty greenish tone, probably due to the support, which we do not like; as a lantern slide this should be good. (2) Poor and dirty; you should have

focussed the faces. (3) Print under-exposed, and would have been improved if the feet were in; the idea is good. (4) Bad, too set, print shows air hubbles. (5) Camera not upright; and we should have preferred some other support and the feet more in focus. (6) Good print, a little too dark. (7) Your sleeping beauty is not asleep. Cut out your ventilator on the right. We should recommend you to be a little cleaner in working and mounting, and then enter for some of our competitions; you have unique opportunities of making most pathetic pictures.

A. CROWE QUILL.—Mr. A. Ullman, 3, Edmund Place Aldersgate Street, E.C., will be pleased to answer any questions as to customs, charges, etc., in Germany.

A. H. WILLIAMS.—Fallowfield stocks such mounts. They are sold, we believe, as "Midget" or "Promenade Midget."

ALFRED RUSSELL.—We are sorry that the medals are not ready, but shall hope to send in a week or ten days.

J. B. H.—Swinden and Earp's "The Griffin" would suit you. If you elect to have a hand-camera with dark slides, and for your purpose we should advise such, we should strongly recommend the "Reflex." You will be well satisfied to pay a little more money for it. Messrs. Mawson and Swan, of 33, Soho Square, W., will supply you with full particulars.

C. SMALLRIDGE.—You shall have the "New Zealand" photographs at an early date. If you want a reliable, cheap, and useful hand-camera, we should recommend the "Talmer" in preference to the other that you name.

AMATEUR.—(1) We should recommend a rapid bromide paper for Nos. 1 and 2, Kallitype for No. 3, and matt-surface chloride paper for No. 4. Nos. 1 and 2 are very fine results, and ought to be entered for our competitions. (2) Black tones cannot be obtained on ordinary silver paper. (3) Yes, the paper will give good results with dense and thin negatives; it is merely a question of modifying the exposure and development. Always pleased to help you.

MRS. J. T. RICHARDSON.—Letter by post.

T. M. J.—We prefer to have correspondents' names and addresses. The Euryscope is a useful type of lens, practically from its large aperture midway between the portrait and R.R.; it is suitable for general landscape and architectural work. But we should certainly prefer the Casket, which is a far superior set; either the R.R., or R.V. would do for portraiture and would be quite as suitable and quite as rapid as the R.R.

R. ANDERSON.—We hoped that our leader had made all plain. The hacking must be in optical contact, that is, in as close adherence to the glass as the film. Orange paper smeared with glycerine would be of some assistance, but it would have to be squeezed down on to glass—this is absolutely essential.

LEO.—You want a fine spotting brush, some burnt umber, indian ink, and carmine lake; mix the colours on a piece of opal glass with weak gum water, 1 part gum to 5 parts water; match your print colour as closely as possible, then spot out by making minute dots of colour, before hurnishing.

Sale and Exchange.

RULES.

CHARGE.—Twelve words or less for Fourpence.

Every additional three words, one penny. The name and address of the sender must be paid for. (A single figure, or group of figures undivided by letter, space, stop, or words, counts as one word; compound words count as two words.)

DEPOSITS.—The money for goods forwarded on approval may be deposited with the Publishers of the AMATEUR PHOTOGRAPHER, who will hold the amounts deposited until they are satisfied that the transaction has been completed to the satisfaction of buyer and seller.

COMMISSION.—A charge of 2½ per cent. will be deducted from all deposits whether a sale is effected or not.

PAYMENT.—All payments are to be by cheques or Postal Orders, made payable to Hazell, Watson, and Viney, Ltd., 1, Creed Lane, London, E.C.

Backgrounds.—Background, exterior, 8 ft. by 7 ft.; price 10s.—Clark, 31, Helmet Row, E.C.

Exterior background, 8 ft. by 7 ft., flatted oil, new; 10s.—Brickland, Abingdon

Flatted oil background, new, on linen and roller, 8 ft. by 8 in., interior one side, landscape the other; 15s. 6d.; or exchange to 30s. Wanted, good posing chair, cheap for cash. Wanted, good posing chair, cheap for cash.—Hare, Photographer, Sutton, Surrey.

Bicycle, etc.—For sale, cushion tyre Safety, £6; terrace accessory, imitation old stone, 30s.; carved oak chair, 25s.; fur rug, 15s.—Cyclist, 7, Dereham Road, Norwich.

Cameras, etc.—Watson's 12 by 10 Premier camera, brass-bound, three double dark-slides, extra front, and sliding tripod, by same maker, all new a few months ago, hardly used, also a leather case for same; the lot for £18.—P., Glenrisse, Battledown, Cheltenham.

First-class half-plate camera, three double slides, nearly new; £2 17s.—B., 1, Balfour Terrace, Mayes Road, Wood Green.

High-class half-plate camera, every modern improvement, 50s., or, with three double dark-slides, 65s.; 3-fold tripod, cost 21s., 16s., a bargain.—S. Dalby, 35, St. Thomas Street, Weymouth.

Cameras, Lenses, etc.—Whole-plate Scotia camera, four double slides, Vever's whole-plate lens, and Optimus 7 by 5 rectilinear, will cover whole-plate, Ashford's tripod, Underwood's Instantolux shutter; cash offers.—Sewell, Stationer, Barrow-in-Furness.

Half-plate camera, lens, two slides, and tripod; first P.O. for 19s. has it.—Heath, Pride Hill, Shrewsbury.

Lens, Optimus rapid EurySCOPE, 5 by 4, 40s.; quarter-plate portrait lens (by Lerebours), 18s.; stereoscopic camera, lens, two fronts, 15s.; half-plate portrait lens, 15s. 6d., with stops.—J. Bryan, Photographer, Chapel Street, Bridlington.

A bargain, Chapman's finest half-plate British camera, three slides, 2-fold tripod, and solid leather bag, for £4, lowest; also Optimus 7 by 5 EurySCOPE, £3 10s.; all in very newest condition: if lot taken, £7; approval; deposit.—Ball, Portwood, Stockport.

Hand-Cameras, etc.—Adams' hand-camera, with additional reservoir, equal new; cost £12 10s. net; lowest price £9, cash, nothing less accepted; no approval; seen by written appointment.—L., care of Housekeeper, 22, Great St. Helens, London.

Hand-camera for sale.—Apply to Hunt, 5, Queen's Crescent, Glasgow West.

Kodak, No. 2, perfect order, cost £7 10s., price, with film for 40 exposures, £5; also film for 60 exposures, 10s. 6d.—Tresilian, 31, Lower Sackville Street, Dublin.

Beck's quarter-plate 12-guinea detective camera, six double backs, excellent condition; price £7 15s.; approval on deposit.—Bygrave, 15, Canterbury Road, Brixton, S.W.

Adams' Ideal, all latest improvements, cost £7, in perfect condition; will take £5 lowest.—Ellison, 4, Fenchurch Street, E.C.

Hand-camera, Fallowfield's £5 5s. Facile camera, rectilinear lens, finder, complete, new last month, perfect condition; lowest price £4; approval.—Chappell, 12, Anhalt Road, Battersea.

No. 4 Junior Kodak, empty, good condition; £6 10s.—Letters only to T. W., 379, Strand, W.C.

Quarter-plate Shew's Eclipse hand-camera, six double backs, finder, tripod, in perfect condition; £4 10s.—Naylor, Warwick Road, Ealing.

Exchange automatic hand-camera, finder, full-size plate, takes 12 quarters, for Talmer or similar pattern, or sell 45s.—Lewis, 43, The Grove, Vauxhall.

Lanterns.—Eastman's 11s. enlarging lantern, as new; what offers cash? or half-plate set.—Simpson, Old Nelson Street, Lowestoft.

Watson's £6 6s. optical lantern, perfect, as new; price £3 15s.; grand lantern; approval with pleasure.—Avery, 45, Park Street, Dorset Square, London.

Lenses, etc.—7 by 5 London Stereoscopic Co.'s R.R., fine condition, cost 65s., price 35s.; 7 by 5 R.R., quite new, splendid instrument, 25s.; approval.—Avery, 45, Park Street, Dorset Square, London.

Hobson and Taylor whole-plate landscape lens, with Iris, new last season, splendid condition; price 45s.—3, Edmund Place, Aldersgate Street.

Lancaster's International lens and shutter; cost 35s.; price 10s.—Russell, Grays, Essex.

Whole-plate rapid rectilinear lens (by Dale), with stops, a splendid instrument; only 40s.—Clark, 31, Helmet Row, E.C.

Lens, grand rectilinear, 7 by 5, loose hood, stops f/8 to f/32, new; offers wanted near 25s.—Adams, Hutton Yard, E.C.

8 by 5 Grubb R.R. lens, new, 65s.; half-plate Wray rectilinear lens, new, 60s.; warranted perfect.—6, Montford Place, Kennington Green.

Wray's 5 by 4 R.R. lens, 40s.; Marion's half tripod, 5s. 6d.—Turnbull, Smedley Road, Manchester.

Whole-plate R.R. lens, 32s. 6d.; Underwood's Russia leather hand-camera, for 11 quarter-plates, 24s.—John Slade, Slad Road, Stroud.

Half-plate R.R. lens, with seven Waterhouse stops in case; on approval; price 27s.—B. A. Smith, Spring Villa, Putney Road, Handsworth, Birmingham.

Half-plate R.R. lens, f/8, 9 in. focus, set of stops; 20s.; or exchange Watson's Cyclist tripod or other, in good condition.—A. E. L., 56, Lower Addiscombe Road, Croydon.

Roll Holder.—Eastman's roll-holder, quarter-plate, suitable for detective camera, perfect condition, with roll of film; price 25s.—Apply, Ratcliffe, Exchange Chambers, Liverpool.

Half-plate Eastman roll-holder, never been used; cost £3; price 30s.—Clark, 31, Helmet Row, E.C.

Sets.—Whole-plate Exhibition camera, three slides, brass-bound, rectilinear lens, Iris diaphragm, Instantolux shutter, three carriers, folding tripod, viewfinder, and waterproof canvas cases, condition perfect; price £10.—Lieut. Luard, H.M.S. "Immortalite," Channel Squadron.

Quarter-plate set, Underwood's Compactum, only 13s. 6d.—53, Slad Road, Stroud, Glos.

12 by 10 Hare's patent square camera, conical bellows, long-focus, reversing back, three double dark-slides, 15 by 12 Dallmeyer's rapid rectilinear lens, in leather case, Grimston shutter, focussing cloth, and solid leather case for camera, slides, lens, etc., Kennet's stand and head, all as good as new, scarcely used; £25, or offers; must be sold.—B., care of Wratten and Wainwright, 38, Great Queen Street, London, W.C.

Le Merveilleux set, with bag, quite new, 20s., cost 28s. 6d.; whole-plate wide-angle lens, new, 20s.; 2 in. spark coil, and vacuum tubes, £3; pair telephones, medical coil, grandfather's clock, splendid order, £3.—Camera, Heyside, Royton.

Will exchange Shew's Eclipse outfit, in solid leather case, lock and key, six double slides, finder, new a month ago, results shown, for 5 by 4 Swinden and Earp's hand-camera, Adams' camera, 4½ by 3½, or Loman's special Reflex camera.—Walton, Churchtown, Southampton.

Half-plate camera, Negretti and Zambra lens, folding tripod, dark shutter, focus cloth, carrier, developing dishes, cutting shapes, trimmer, paper mounts, solutions, bottles, etc., everything complete, giving up photography; £2 10s.—Joseph Yerbury, St. Margaret's Lodge, Kilburn, London.

Nearly new half-plate camera, swing and reversing back, rising and horizontal front, best leather bellows, four double dark-slides, half-plate Beck's rapid rectilinear lens, with stops, folding ash tripod, the whole in solid leather case, a really first-class set; price £9, cash; worth nearly double; a genuine bargain; approval with pleasure; only wants seeing.—Clark, 31, Helmet Row, E.C.

Lancaster's quarter-plate Instantograph, in good condition, three mahogany double backs, Optimus R.R. lens, Thornton-Pickard time shutter, nearly new, tripod, etc., complete; lowest price 70s.; or exchange Talmer 1891 hand-camera.—Sharland, 73, Santos Road, Wandsworth.

Shutters.—Thornton-Pickard time shutter, diameter 2½ in., perfectly new, in working order; cash 16s.; cost 22s. 6d.—Arthur Carré, Bordage, Guernsey.

Underwood's Instantolux, time and instantaneous, 2½ hood, good condition; cost £1; take 12s. 6d.—3, Edmund Place, Aldersgate Street.

Sundries.—Telescope (by Davis, of Leeds), nine draws, extends 31 in., closes to 6 in., 1½ object glass; cost £3; price 25s.—Clark, 31, Helmet Row, E.C.

Tylar's Whirlpool washer, almost new; cost 8s. 6d.; 6s., or exchange.—A. W. Lamb, Cleobury Mortimer, Salop.

Lancaster's Merveilleux plate exchanger; what offers? good condition.—Hayward, Terminus Road, Eastbourne.

Portable dark tent, and 6½ plate printing frames, 10s.; polished ash tripod, 4s.; 10 by 10 mahogany box camera with 10 by 12 R.S. lens, 25s.; four Tylar's whole-plate ebonite dishes, lettered, three whole-plate boxes, 10s., or exchange.—Allbright, London Road, Croydon.

Type, 7 new founts, borders, etc., to be disposed of,

cash or exchange.—O. Sansome, 4, South Beach, Blackpool.

Wood's half-plate washer, for plates and prints, new, 11s.; three Tylar's metal dark-slides, complete, to fit Lancaster's half-plate Instantograph, 7s. 6d.—Frere, Mersey Buildings, James Street, Liverpool.

Will give Lancaster's whole-plate camera case for good cabinet burnisher; Lancaster's whole-plate tripod for 15s.; four Tylar's half-plate trays for 3s. 6d.; half-plate camera, lens, and slide (suit beginner), 10s. 6d.; whole-plate 2-fold tripod, 7s. 6d.; two half-plate metal plate boxes, 3s.; half tripod, 3s.; quarter ditto, 1s. 6d.—Enterprise Co., Bodmin.

Watson's 12 by 10 Acme, three slides, W.A. and R.R. lenses, in case, cost £35, as new, £24; 15 by 12 Optimus R.R. lens, new, 105s.; 7 in. best Optimus enlarging lantern, 100s.; Hare's quarter camera, changing back for 13 plates, 27s.; Watkin's meter, 6s.; Lancaster's quarter lantern slide camera, 10s.; Griffiths' ditto to 12 by 10, 10s.; Stanley's quarter instantaneous shutter, 13s.; quarter Pickard time and instantaneous, 10s.—H. Lancaster, 15, Wharton Road, West Kensington.

WANTED.

Burnisher.—A burnisher, must be good; state maker; cash.—Wm. Whinham, Prudhoe-on-Lyn.

Cameras, etc.—A whole-plate camera and slides, in exchange for splendid microscope, value £10.—Firth, Oakleigh House, Wakefield.

Good camera; exchange Singer's Apollo safety.—O. Moulds, Bright Street, Darlington.

Good superior make half-plate camera, one or more slides, with or without lens, and stand; particulars.—Amateur, 101, Hilton Street, Higher Broughton, Manchester.

Dark-Tent.—Dark-tent, must be in good order and cheap for cash (not umbrella shape).—Harvey, care of Bunting and Co., Swaffham.

Hand-Cameras, etc.—A Krugener's Book camera, Swift's Memorandum, or other good hand-camera, cheap for cash.—Simmons, 102, Ladbroke Grove Road, Notting Hill.

Kodak, No. 3, ordinary or Junior.—Hummel, care of Holzappel and Co., Newcastle.

Hand-camera, double lens, Talmer preferred, moderate price.—A. B., 22, Strickland Street, Newcastle-on-Tyne.

Talmer's improved hand-camera, quarter-plate; approval.—G. Ahott, Broomhill, Sheffield.

Lantern.—Good magic lantern, 4 in. double condenser, portrait front lens.—Address, John Kirkpatrick, Helensburgh.

Lenses, etc.—Wanted for full-plate camera, a 9 by 7 R.R. lens, with Iris diaphragm, must be by first-class maker, a Ross' preferred; also tripod and full-plate washer.—Bis, The Cedars, Rickmansworth.

Optimus EurySCOPE, 7 by 5, must be cheap.—Dukes Llangadock, South Wales.

Monthly Competition.

XXVII.—HAYFIELD.

The following photographs have been received:—

Title of Photograph.	By whom sent.
Carrying Hay	Mrs. Hall
The Last Pike	W. H. McIntosh
The Last Load	Miss E. Hodgson
A Moment of Relaxation	R. Dudley Tucker
An Interesting Pause	J. Tims
At the Stack	H. Bentley
Is it Fit?	L. W. Darra Mair
Carting Hay	A. L. Spiller
A German Hayfield	E. Winn
Another Load for the Stack	W. Mangham
The Evening Meal	G. W. Blackwell
Hayfield	A. E. Ginningham
A Good Load	A. J. Leeson

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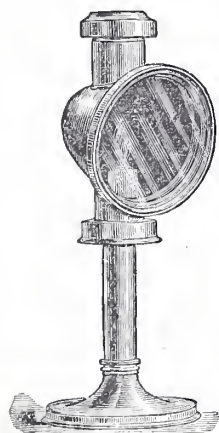
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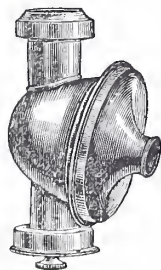
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No. 359. VOL. XIV.]

FRIDAY, AUGUST 21, 1891.

[PRICE TWOPENCE.]

OUR VIEWS.

"To hold as 'twere the mirror up to nature,"—*Shakespeare.*

The Monday afternoon "At Home" is discontinued for the present, but will be resumed on Monday, the 7th of September.

OUR VIEWS.—Cardiff Photographic Exhibition—The British Association, Dr. William Huggins—China Camera Club—Glasgow Photographic Exhibition—Exhibition at Falmouth—Holidays with the Camera—Photographs at Welsh National Bisteddod—H.R.H. the Princess of Wales with a Hand-Camera—Northern Tasmania Camera Club—The Salvation Army and the Hand-Camera.

LEADER.—Toning.

ILLUSTRATION.—"A Friendly Service," by W. Adcock.

BRITISH ASSOCIATION.—Excerpt from President's Address: "The Use of Photography in Astronomy."

LETTERS.—A New Lens (T. Perkins)—Wanted, a Shutter (H. A. Hood Daniel)—Night-Blooming Cereus (Agricola)—Photographic Copyright (Gambier Bolton).

ARTICLES.—Photographic Procedure (Wall), illustrated—Studies in Art for Photographers (Lambert)—The Action of Light on Chloride of Silver (Guntz)—Permanent Prints (Brown Slick).

HOLIDAY RESORTS.—North Wales as a Field for Photography, by John A. Hodges.

EXHIBITIONS.—Cardiff International Photographic Exhibition Awards—Pictures at the People's Palace.

APPARATUS.—Hand-Cameras by Walter Griffiths and Co., Ltd.

SOCIETIES' MEETINGS.—Birkenhead—Bournemouth—Enfield—Hackney—Holborn—Lewes—Liverpool—North Middlesex—Richmond—Wakefield.

EDITORIAL DEPARTMENT.—All Literary Contributions, Queries and Answers, Photographs for Competition or Criticism, Books or apparatus for Notice or Review are to be addressed to the EDITOR, AMATEUR PHOTOGRAPHER, 1, CREED LANE, LUDGATE HILL, LONDON, E.C. (*All Communications should reach the Editor on Tuesday.*)

TRADE ADVERTISEMENTS are received up to Tuesday morning.

TERMS OF SUBSCRIPTION—

UNITED KINGDOM.....	Six Months, 5s. 6d.....	Twelve Months, 10s. 10d.
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PUBLISHING DEPARTMENT.—All letters containing Subscriptions, Orders, Remittances, SALE AND EXCHANGE Advertisements, or other business matters for the AMATEUR PHOTOGRAPHER are to be addressed to the Publishers, HAZELL, WATSON, AND VINEY, LD., 1, CREED LANE, LUDGATE HILL, LONDON, E.C. (*SALE AND EXCHANGE Advertisements, at the charge of Three Words for One Penny, can be received as late as WEDNESDAY MORNING.*)

"Amateur Photographer" 1891 Lantern Slide Competition (Fourth Year).—Prizes: Gold, Silver, and Bronze Medals, and Certificates in each class. Competitors to enter only one class; every competitor to contribute *ten* slides, and a "lantern slide portrait" of him or her self.

CLASS I.—Landscape, Sea Pieces, and River Scenery, with or without figures.

CLASS II.—Portraiture and Figure Studies, to include in-door or out-door pictures.

CLASS III.—Architecture, Interior or Exterior.

CLASS IV.—The Fine Arts, which may include copies of Pictures, Engravings, Sculpture, Art Metal Work, China, Bric-a-Brac, etc.

NOTE.—Every Competitor must send descriptive Notes.

Past prize-winners will be awarded "Niepce" or progressive medals, should they win a medal of the same value as that which they have been awarded in past Lantern Slide Competitions.

All slides must be received on or before the 30th September, 1891.

RULES, CONDITIONS, and ENTRY FORMS will be forwarded on receipt of stamped addressed envelope. The application should be endorsed, "LANTERN SLIDE COMPETITION," Editor, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C.

In another column we give an account of the principal photographs at the Cardiff Exhibition, which can hardly be called a pronounced success, there being a paucity of new work. The catalogue is numbered up to 545, but in almost every class we notice that there are numbers which have no titles against them, reducing the 545 to something like 470. The society sought to make a special feature of Class 15, "Best collection of not less than fifty slides illustrating a town or district." Only one society responded to the invitation, *i.e.*, the Swansea Photographic Society. Possibly the condition, "the winning slides to become the property of the (Cardiff) Society," acted as a deterrent. The prize, an optical lantern, value ten guineas, was not awarded. The judges appears to have done their work well, although it is sometimes difficult to reconcile their awards; for instance, Mr. John E. Austin, a most competent worker in "Genre" (professional or amateur), takes second prize for "The Love Letter," first in lantern slides, first "Genre" (amateur) for "Chaff," and third for landscape, six quarter plates.

The fault of the Committee has been in arranging too many classes and in having classes in which both "professional and amateur photographers" could compete, and then special classes for "amateurs only." Mr. Austin has by this means secured a first and second prize for photographs which are of identically the same value, looked at either from an art point of view or as photographs pure and and simple. These numerous classes are most costly, cheapen the society's medals, and are only good for one purpose, that is to aid the medal hunter. In the case under notice there is no honour and no value attached to the award. Mr. Austin is possibly able to keep his record, and has done so by placing his photographs out to the best advantage. These remarks will, we think, go to prove the folly of Exhibition Committees trying to run with the hare and the hounds; if classes in the exhibition be not set aside for the work of amateurs only and professionals only, let it be open entirely. We, of course, contend that the former is best, and have yet to learn that any exhibition has shown a better record than the first International Liverpool Exhibition, where the divided classes obtained. The largest class at the Cardiff Exhibition is the "Landscape" (amateur), with twenty-seven exhibitors, and the next, "Genre" (amateur), fifteen exhibitors; of these we note only four exhibit in the same classes open alike to professional and amateur, quite proving our contention that only in very exceptional circumstances the amateur photographer will not, if he can help it, place his pictures in competition with professionals. And the smallness of the two classes referred to, only thirteen and fourteen exhibitors,

goes far to prove that professionals do not care to exhibit with the amateur. To prove the cost to the society and the cheapness of the awards, we would mention that a prize has been awarded to about every *ninth* photograph hung.

THE President of the British Association, Dr. William Huggins, whose reference to photography we give in our columns, is sixty-seven years of age. After leaving the City of London School he devoted himself to the pursuit of chemistry, electricity, and other branches of science. The microscope has always had a great attraction for Dr. Huggins, but it is in the realm of astronomy that his fame has been made. "Two things," said a great writer, "fill me with ceaseless awe—the starry heavens and the mind of man." Dr. Huggins has studied both with marvellous success. From his observatory at Upper Tulse Hill, he has for the last thirty-five years been adding to our knowledge of the stars. Since 1875 he has occupied some portion of his time with the photography of the ultra-violet portions of the spectra of the stars. This research has furnished astronomers with the best basis on which to compute the relative ages of the stars and of the sun. The Royal Society has honoured itself and Dr. Huggins by conferring two gold medals upon the great astronomer. Pascal used to say, "The contemplating a star-light night terrifies me." It has no terrors but only joy for Dr. Huggins, who has also laboured in the field of discovery as to the motion of stars in the line of sight. Honours have crowded upon him from the Universities of Oxford, Cambridge, Edinburgh, Dublin, and Leyden, as well as from English and foreign learned societies. But he remains the same modest worker, "content to fill a little space," although the secrets of the sky have been revealed to him by his assiduous study of the stars.

THE last mail brings us the rules, list of members, and the Journal of the China Camera Club, formed in March of this year at Shanghai. The fact of these particulars being printed in the English language considerably enhances their value, and we are able to form an opinion of the excellent manner in which the club has been started, and how admirable a paper on "Development" was recently contributed by Professor Hitchcock. The club numbers some forty to fifty members, and promises to be a flourishing concern; we are quite sure that any of our readers who may visit Shanghai will be heartily welcomed by the members of the club and their Hon. Sec., Mr. J. Mencarini.

As the time draws near for the opening of the Glasgow Exhibition, September the 1st, we hear from all sides of its certain success. The Exhibition Committee are substantial men; the two Glasgow societies are working well together. The scheme received substantial financial support, and is under the immediate patronage of the Lord Provost. The opening will be a grand function of the exhibition proper. A recent issue of the *Glasgow Herald* says—

"The Exhibition will be truly international. Pictures are promised from America in considerable numbers, whilst France, Germany, Austria, Italy, Sicily, Malta, Australia, Canada, Newfoundland, and Burmah will all be represented. Hundreds of pictures are coming from England, many from Ireland, and, of course, from all parts of Scotland. As is customary, the pictures will be divided into classes according to the nature of the subject, and in each class medals will be awarded by a jury prior to the opening of the Exhibition. A novel feature will be a section for photo-mechanical prints. This class of printing, in which light plays the part of an engraver, has assumed great importance in connection with illustrated journalism, and the examples on the walls, whether direct representations from nature or reproductions of drawings or paintings, will doubtless be examined with interest. One of the most charming applications of photography is the production of transparencies for the optical—or 'magic'—lantern, and probably the most popular feature of the Exhibition will be the nightly lecture,

illustrated by such transparencies, shown on an immense screen in the large room. Some thirty different lectures have been arranged."

WE would remind our readers that the Royal Cornwall Polytechnic Society's Exhibition, which embraces photography by professional and amateur workers, opens next week, Tuesday, the 25th, at Falmouth, and remains open until the 29th inst.

MANY of our readers will be glad to see our publishers' announcement that "Holidays with the Camera" will be published on the 28th inst.

IT will be remembered that a short time ago we announced that a photographic exhibition was to be held in connection with the Welsh National Eisteddfod, and that prizes would be awarded in connection therewith. The awards were announced at Tuesday's meeting, as follows: In the open class (figure subjects), Mr. Ralph Robinson, of Redhill, and Mr. W. W. Winter, of Derby, tied for the first prize, gold medal. Other prizes were awarded to Mr. W. P. Merchant for wave studies; Mr. S. P. Chapman, of Swansea, for best enlargement of ship in motion; and Mr. Richard Morgan, of Llanarmon-yn-tal, Denbighshire, for collection of photographs.

A CORRESPONDENT writes that "Her Royal Highness the Princess of Wales attended the athletic sports of the Navy and Army at Portsmouth on the 15th inst, and presented the prizes to the successful competitors. Her Royal Highness had with her a hand-camera with which she took several photographs."

WE have just received an account of the second annual meeting of the Northern Tasmanian Camera Club, whose head-quarters are at Launceston. The members have increased in number, there being now nearly forty. Lantern work and practical developing have been the chief subjects worked upon during the last session. Two competitions have been held—"Indoor Portraiture" and "Objects in Motion." Circulating albums have been successful, the members contributing freely and regularly. It was decided at the meeting that a club exhibit should be prepared for the forthcoming Tasmanian Exhibition. The *Launceston Daily Telegraph* writes: "The Camera Club have reason to be pleased with their continued prosperity, and taking into consideration the growing taste for the artistic and fascinating pursuit of amateur photography, there is every prospect of the club growing much larger before the next annual meeting."

WE understand that the Social League of the Salvation Army, who have their well-appointed quarters in Clerkenwell, have recently provided one of their staff with a Swinden and Earp hand-camera, to be used in connection with the work of the League in the slums of London. This enterprising body of workers are far too well abreast of the age to overlook the advantages which photography offers, and are doing a considerable amount of ordinary photographic and photo-mechanical work, which is under the superintendence of a thorough and efficient operator from Paris

Messrs. Percy Lund and Co.—On Saturday, August 15th, the employés of this firm held their annual wayzgoose, at Morecambe. Mr. F. Rodger and Mr. E. Cullingford, on behalf of their fellow workers, presented to Mr. H. Snowden Ward a handsome inscribed travelling writing case, on the occasion of his leaving Bradford to take the management of the London branch of the business. In making the presentation, Mr. Rodger gave an interesting sketch of the history of the firm and of Mr. Ward's connection with it since its commencement in 18

TONING.

A REQUEST we often receive, and one which too often appears in our query column, is, "Can you tell me how to obtain black or purple tones on ordinary albumenised paper?" It is quite possible to modify, at any rate within certain limits, the final colour of the image obtained on sensitised paper, and we shall proceed to briefly discuss these points.

Undoubtedly, it is possible, by altering the salting formulæ of the albumen, to obtain a difference in tone, but as this branch is practically outside the range of the ordinary amateur we will content ourselves with considering those points which all may observe, and which tend to produce

not with what should be. Commercial paper has a greater tendency to give rich purple tones when fumed; fuming is so little practised this side of the herring pond that the term is practically unknown amongst amateurs. Fuming is subjecting the sensitised paper to the fumes or vapour of solution of ammonia just before printing, a chemical combination probably taking place between the ammonia and the complex salts of silver present in the film. The easiest method of trying this dodge is to cut a piece of paper to the required size, and pin it film side down to the top of an empty cardboard box, and sprinkle on the bottom of the box a few drops of strong solution of ammonia; put the lid containing the paper on the box, and

"AMATEUR PHOTOGRAPHER" COMPETITION PICTURES.



A FRIENDLY SERVICE.

BY W. ADCOCK.

rich tones. The character of the negative image possesses an enormous influence on the final colour of the positive print. We have some negatives which will yield prints on any sample of commercial paper, which tone with ease, with almost all baths, to a rich purple; we have also some negatives from which we can never get anything but brown tones. As to what is just the precise quality which governs this fact we are not yet satisfied, still as a rule negatives of good density with full gradation, with here and there almost a patch of bare glass, are, we think, the most suitable.

Certainly it is far easier to obtain purple tones on freshly sensitised paper than on such which has been so called "preserved;" manufacturers undoubtedly have only followed the call for "papers that will keep" in introducing them on the market, but in our opinion less keeping power means finer tones. Still, we have to deal with what is,

leave for fifteen minutes, then put in the printing frame and expose to light.

Has the quality of the light anything to do with the colour of the print? We venture to say it has, and that a somewhat slow printing has a greater tendency to produce the tones so much admired. If this opinion is correct, a weaker diffused light is better than a very bright one, and we should, therefore, choose our light accordingly. Having obtained a print, the next question is, can we do anything to our prints before toning to attain our end? Dr. E. L. Wilson, the well-known editor of *Wilson's Magazine*, suggests well washing the prints and then placing them in acetic acid and water, about one of acid to ten of water, till quite red, then washing well and toning. Others recommend the use of a bath of soda, one to twenty, and we have found this of benefit because it neutralises the acid of the preservative, and therefore has no tendency to render the

toning bath acid. Perhaps an explanation of these last few words is necessary. There are three states of the toning bath—acid, neutral, and alkaline—and each condition of bath has a tendency to give a particular tone, and the alkaline bath certainly is the most conducive to rich purple tones.

Rapidity of toning is also an important factor, and gold rapidly deposited is more likely to give purplish tones. We must, therefore, use our bath fairly strong and warm, as heat accelerates the deposition of gold, as it does most chemical changes. To sum up, then, we may conclude that there are a few commercial papers which have a greater tendency to give purple tones than others; printing slowly and deeply is also necessary; the preliminary washing of the prints in an alkaline bath, the use of a distinctly alkaline gold bath, and this preferably at a moderate temperature, such as 75 degs. to 80 degs. Fahr., will also assist us.

Modification of the gold bath we have not much faith in; the only addition which can be made which really is of undoubted influence on the colour is that of chloride of limo—a very small addition, even as low as one grain to the two ounces of any ordinary bath, will tend still further to purple tones.

To those of our readers who have followed us so far, and are still desirous of purple or even black tones—which are an impossibility on albumenised paper—we should say, choose some other printing process, such as kallitype, chloride emulsion paper, or bromide paper.



THE USE OF PHOTOGRAPHY IN ASTRONOMY.

In his inaugural address, as President of the British Association, delivered at Cardiff on Wednesday evening, Dr. Wm. Huggins, F.R.S., made the following reference to photography:—

The new power which modern photography has put into the hands of the astronomer is great, and has led already, within the last few years, to new acquisitions of knowledge of vast importance.

The recent great successes in astronomical photography are not due to greater skill, nor, to any great extent, to superior instruments, but to the very great advantages which the modern gelatine dry plate possesses for use in the observatory over the methods of Daguerre, and even over the wet collodion film on glass, which, though a great advance on the silver plate went but a little way towards putting into the hands of the astronomer a photographic surface adapted fully to his wants.

The modern silver-bromide gelatine plate, except for its grained texture, meets the needs of the astronomer at all points. It possesses extreme sensitiveness; it is always ready for use; it can be placed in any position; it can be exposed for hours; lastly, it does not need immediate development, and for this reason can be exposed again to the same object on succeeding nights, so as to make up by several instalments, as the weather may permit, the total time of exposure which is deemed necessary.

Without the assistance of photography, however greatly the resources of genius might overcome the optical and mechanical difficulties of constructing large telescopes, the astronomer would have to depend in the last resource upon his eye. Now we cannot by the force of continued looking bring into view an object too feebly luminous to be seen at the first and keenest moment of vision. But the feeblest light which falls upon the plate is not lost, but is taken in and stored up continuously. Each hour the plate gathers up 3,600 times the light-energy which it received during the first second. It is by this power of accumulation that the photographic plate may be said to increase, almost without limit, though not in separating power, the optical means at the disposal of the astronomer for the discovery or the observation of faint objects.

Two principal directions may be pointed out in which photography is of great a service to the astronomer. It enables him within the comparatively short time of a single exposure to secure permanently with great exactness the relative positions of hundreds or even of thousands of stars, or the minute features of nebulae or other objects, or the phenomena of a passing eclipse, a task which by means of the eye and hand could only be accomplished, if done at all, after a very great expenditure of time and labour. Photography puts it in the power of the astronomer to accomplish in the short span of his own life, and so enter into their fruition, great works which otherwise must have been passed on by him as a heritage of labour to succeeding generations.

The second great service which photography renders is not simply an aid to the powers the astronomer already possesses. On the contrary, the plate, by recording light waves which are both too small and too large to excite vision in the eye, brings him into a new region of knowledge, such as the infra-red and the ultra-violet parts of the spectrum, which must have remained for ever unknown but for artificial help.

The present year will be memorable in astronomical history for the practical beginning of the Photographic chart and catalogue of the heavens, which took their origin in an International Conference which met in Paris in 1887, by the invitation of M. l'Amiral Mouchez, Director of the Paris Observatory.

The decisions of the Conference in their final form provide for the construction of a great photographic chart of the heavens with exposures corresponding to forty minutes' exposure at Paris, which it is expected will reach down to stars of about the fourteenth magnitude. As each plate is to be limited to four square degrees, and as each star, to avoid possible errors, is to appear on two plates, over 22,000 photographs will be required.

With an exposure sufficiently long for the faintest stars to impress themselves upon the plate, the accumulating action still goes on for the brighter stars, producing a great enlargement of their images from optical and photographic causes.

The remarkable successes of astronomical photography which depend upon the plate's power of accumulation of a very feeble light acting continuously through an exposure of several hours are worthy to be regarded as a new revelation. The first chapter opened when, in 1880, Dr. Henry Draper obtained a picture of the nebula of Orion; but a more important advance was made in 1883, when Dr. Common, by his photographs, brought to our knowledge details and extensions of this nebula hitherto unknown. A further disclosure took place in 1885, when the Brothers Henry showed for the first time in great detail the spiral nebula issuing from the bright star Maia of the Pleiades, and shortly afterwards nebulous streams about the other stars of this group. In 1886 Mr. Roberts, by means of a photograph to which three hours exposure had been given, showed the whole background of this group to be nebulous. In the following year Mr. Roberts more than doubled for us the great extension of the nebular region which surrounds the trapezium in the constellation of Orion. By his photographs of the great nebula in Andromeda, he has shown the true significance of the dark canals which had been seen by the eye. They are in reality spaces between successive rings of bright matter, which appeared nearly straight owing to the inclination in which they lie relatively to us. These bright rings surround an undefined central luminous mass. Some recent photographs by Mr. Russell show that the great rift in the milky way in Argus, which to the eye is void of stars, is in reality uniformly covered with them.

Letters to the Editor.

A NEW LENS.

SIR,—I have recently been using a lens which though not yet advertised has, I believe, a future before it and will be highly prized by many landscape photographers. It is a triple cemented meniscus, the forms of the component parts being different from those in any other lens which I have seen, its peculiar property being the uniformity of the definition it gives. With the rapid rectilinear and with the rapid plano-concave landscape lens, to a less extent, with full aperture, the centre of the field is apt to be microscopically sharp, while the margins of the plate are painfully out of focus, the insertion of each successive stop extending the sharp area. But with the new lens, with its largest stop $f/16$, there is a slight general diffusion of focus, an effect especially pleasing to some workers, and as smaller stops are inserted, the definition is gradually and uniformly improved all over the plate. The lens in my possession has a focus of $15\frac{1}{2}$ in., a diameter of 2 in., and a tube barely $2\frac{1}{2}$ in. long. The curves of the lens and the position of the stops are so arranged that the effect of flare spot—that great bane of single combinations—is eliminated.

This size covers a 12 by 10 plate with plenty to spare, not the slightest trace of dark corners appearing when the rising front is used to its full extent. This lens has been designed and made by Wray.—Yours, etc.,

T. PERKINS.

August 18th, 1891.

* * * *

WANTED, A SHUTTER.

SIR,—Perhaps amongst your many readers there may be some who can tell me of a shutter which has the following points of excellence. Cadett's has, but its bulk is a fatal objection.

- (a) Rapid and ascertained exposures from $\frac{1}{4}$ to $\frac{1}{1500}$ of a second.
- (b) Long exposures of any duration with power of reopening as often as desired without resetting, so as to close for wind in dark wooded subjects.
- (c) Pneumatic release and operation in both classes.
- (d) No vibration. Vibration ruins one of the best plunge shutters in existence.
- (e) Reasonable portability.

If there be such a shutter made (probably on either the revolving or blind principle), I should be very glad to hear of it, and it should have a good sale, as so far I know of none embodying these properties, which are absolutely necessary for the perfection of an exposure shutter.—Yours, etc.,

H. A. HOOD DANIEL

(President, Bristol and W. Eng. A. P. A.)

* * * *

NIGHT-BLOOMING CEREUS.

SIR,—The picture of the night-blooming cereus in a recent issue is interesting to me, as my father has been a grower of them for years; and that it is quite possible to photograph them by daylight even in muggy old England is evinced from the fact that last year, when at home, I photographed one by daylight in the greenhouse, one dull morning when it was raining hard. The flower was beginning to close, but I got a fairly good photograph of it. I have not the negative with me, or I would send you a print, and also one of another kind taken by lamp-light, but less clear a picture, though the most beautiful of the night-blooming cereus species.—Yours, etc.

AGRICOLA.

Nova Scotia, August 3rd.

PHOTOGRAPHIC COPYRIGHT.

SIR,—The action brought by Mr. Gambier Bolton, F.Z.S., against the proprietors of the *Daily Graphic*, for infringement of copyright in his photograph of Lady Florence Dixie's jaguar (lately deceased), has been settled out of court, on the payment of damages and all costs by the defendants.

The following apology appeared in the *Daily Graphic*, August 11th, 1891:—"Lady Florence Dixie's Jaguar.—We regret that we should have inadvertently issued a portrait of Lady Florence Dixie's jaguar, drawn from a photographic study made by Mr. Gambier Bolton, F.Z.S., and included in his copyright collection of animal studies. Mr. Gambier Bolton's studies are so widely known, and in such general request, that this acknowledgment is due to him for the use of what is without doubt a valuable property."—Yours, etc., GAMBIER BOLTON.



Portable Dark-Rooms.—Messrs. Geo. Houghton and Sons send us the following:—"One of our portable tent studios (16 ft. by 12 ft.) has been put to serviceable use during the last fortnight by Messrs. Barraud, Ltd., of London and Liverpool; first at Canterbury during the Jubilee Cricket week, and afterwards at Burlington House, Piccadilly, during the Hygiene Congress, at both of which Messrs. Barraud have taken many hundreds of portraits for the composition pictures they are producing of both events. The portability of the studio is evidenced by the fact that it was in use at Canterbury up till four o'clock on Friday, and ready for use at Burlington House on Saturday, the 8th inst., by twelve o'clock. If you can see your way to notice this in your journal, we shall esteem it a great favour."

Robert Sees the Photograff Taken.—Well, I have seen some grandly hinteresting sites in my time, I have, but never, no never, did I see anythink to ekal the picter as I seed on the werry larst day of July larst week, when, by such a series of good lucks as I arldy ever had afore, I was priveleged for to see the Lite Honorable the Lord Mare prepare hisself, with his two lately benighted Sheriffs, in the most scrumptious of their many rich dresses, and with the solid gold Carsket as was guv to the Hemperer of Germany about a fortnight ago, and had most misteriously cum back from abroad, all for to be photograffed altogether in one big grupe, with all the Aldermen as they could find handy in their rich crimson silk dresses, and several werry Common Counsellors and Town Clarks and Remembreners, et setterer, in horder as the longing world may see what sorts of Gents they was, and how they all looked when in their werry best close, and with their lovely solid gold deackorations on (as the Hemperer and the Prince of Wales begged and prayed as they might have one a-piece) who arranged and carried out the grandest show of modern times, wiz., when the German Hemperer and his wife cum to Guildhall. Oh, wasn't they a long wile before the Gent could get 'em all into good places, and didn't they all look sollem, when he said, "Quite steddly, please!" But not noboddy as reddily gives a ginny for a mere copy of what I saw dun, will see all I saw without paying no ginny, and that was to see the hole grand picter built up, as it were, beginning with the Lord Mare in his white hermine robe of poorty and his black Cocked Hat of Power all most bewtifooly and kindly arranged for him by the hartistic Sheriff. And then what a lesson on trew humility, to see the Lord Mare, in all his glory, retire to the Committee's dressing-room, and there strip hisself to his werry shirt-sleeves and clothe hisself in the mere bordinary close of common humanety! Ah! I henrys no man his persession of the bewtifool Photygraft, for I, almost alone, can say, tho but a pore hed Waiter, I saw the grand pictur grow like a bewtifool dream, and then saw it fade away like a strawbery hice on a Summer's Day!—*Punch*.

EXHIBITIONS.

SOCIETY.	Place.	Open.	Close.	Last date for sending in.	Secretary.
Phot: Soc:	Cardiff.	Aug. 12.	Aug. 26.	Aug. 7.	{ G. H. Bedford, } 127, Bute Road, Cardiff. T. H. Faulks,
Royal Cornwall Polytechnic... Exhibition Committee	Falmouth. ... Amsterdam.	Aug. 25. Sept. —.	Aug. 29. Oct. —.	Aug. 11. Sept. 1.	E. Kitto, The Observatory, Falmouth.
Am: Phot: Soc:	Glasgow.	Sept. 1.	Oct. 3.	Aug. 22.	Chr. J. Schuivier, P. C. Hoofstraat 72, Amsterdam.
Phot: Soc:	Hackney.	Sept. 23.	Sept. 24.	.....	Wm. Goodwin, 3, Lynedoch Street, Glasgow.
Phot: Soc:	London.	Sept. 28.	Nov. 12.	Sept. 16.	W. Fenton Jones, 6, Victoria Street, Hackney, N.E.
Phot: Soc:	Hackney.	Oct. 21.	Oct. 22.	.....	H. A. Lawrence, 50, Great Russell Street, London, W.C.
Art Gallery Committee	Leeds.	Dec. 7.	Jan 9.	Nov. 27.	W. Fenton Jones, 6, Victoria Street, Hackney, N.E. Geo. Birkett, Municipal Art Gallery, Leeds.

Photographic Procedure.

By E. J. WALL,

Author of the "Dictionary of Photography."

SECTION I.

THE CAMERA AND ITS APPURTENANCES.

(Continued from page 110.)

Internal Shutter.—This, as the name implies, is a piece of wood, tin or cardboard fitted inside the camera to enable one to utilise half or a portion only of the plate. For stereoscopic work a division down the centre of the camera is necessary. (See section on Shutters.)

Level.—This little instrument is convenient for ascertaining when the camera is absolutely level. The various forms are shown in the accompanying diagrams lent by Messrs. Taylor, Taylor, and Hobson (figs. 35, 36, 37), the circular one showing the camera to be perfectly level



FIG. 35.

and horizontal when the bubble is in the centre.

Note Book.—Every amateur should possess a note book in which to enter particulars of each exposure, thus forming a valuable index when compared with the work. There are several books placed on the market, but the following sample of the writer's book, which is somewhat more complete, will give an idea how to make one oneself :—

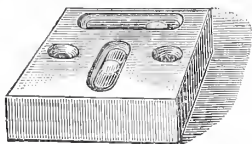


FIG. 36.

REGISTER No.	DATE.	TIME AND LIGHT.	SUBJECT.	LENS.	STOP.	PLATE.	EXPOSURE.	REMARKS.	REMARKS.
39	19/4/87	10 a.m. sunlight	River Scene, Gravesend	15 in. single	f/22	Wratten 24° W.	¼ sec. ...	Fine clouds.....	Pyro and soda, 1-10th gr. Slow bromide: 20 × 18.
229	17/7/88	4.30 p.m. sun	Hastings — Castle	R R, 12 in.	f/16	Isochromatic 25° W.	1 sec. ...	Heavy foreground	Hydroquinone: Alpha: 75 × 18.
437	1/6/90	11 a.m. dull	Portrait—Mrs. B.	Portrait 6in.	f/5	Paget xxxxx ...	20 sec...	Probably under-exposed	Eiko cum hydro. Gelatino-chloride

The following explanation will make all clear: The first column is the number of the negative in my register. From the second to the eighth columns no explanation will be required; the last two columns, devoted to "remarks," require some clearing up, however. The first column of remarks are made

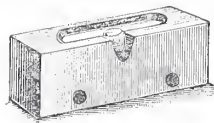


FIG. 37.

at the time of exposure, and are intended for guidance in development; the last gives the method of development, the most suitable printing processes, and where this includes development, as in the case of bromide and Alpha papers, the exposure is given; thus 20 × 18 means 20 seconds at 18 ins. from No. 5 Bray's gas burner, and 75 × 18, 75 seconds at 18 ins. By this means when requiring to print from a negative after the lapse of a long time I can immediately tell the most suitable printing process and, where necessary, the requisite exposure. Such a note book as this requires very little trouble to fill and is a valuable guide not only in developing, but in comparing results with exposure, development, etc.

Panoramic Camera.—The angle or amount of subject included on the ordinary dry plate is dependent on the

focus of the lens, and rarely exceeds 90 deg., but an observer mounted on a hill can with a single movement of his head obtain the visual impression of at least double, viz., 180 degs. In order to achieve this feat by the aid of photography, it is customary with the ordinary apparatus to make two or three exposures on consecutive plates, and join the resultant prints; if any of my readers have tried to thus make a panoramic view, they will have experienced the vexation and weariness of spirit of trying to make three or more prints from different negatives, exactly the same shade of colour and tone, and the difficulty of exactly joining the same when obtained. Old workers in the early days of photography very soon discovered this almost impossible task to be a great waste of time, and therefore as early as 1845 Martens constructed a panoramic camera for curved daguerreotype plates, and, working quite independently, Gavella made in 1848 a similar camera. In 1856 Schuller improved Martens camera, and arranged it for flat plates, and in the following year, 1857, Ross and Brooman constructed similar apparatus. In 1861 Sutton, who is generally described as the inventor of the panoramic camera, made his special camera and fluid lens, and in 1864 Johnson made his "Pantoscopic camera," in which the lens and plate were moved by clockwork and which he improved in 1866. Liesegang, under the name of "Rotations-apparat," introduced important improvements; and Glatter introduced lately his panoramic and group camera, and Moëssard his "Cylindograph" for use with films. Bent plates are by no means easy to coat either with collodion or gelatine emulsion, but with a flexible support such as celluloid or paper, no such difficulty is met with, as long strips may be pre-

pared flat, and then bent into shape by a suitable dark-slide.

A slight digression may perhaps be permitted on the principle involved in the panoramic camera, and for this purpose I clip a quotation from Pizzighelli's "Handbuch der Photographie," vol. i., 2nd edit., p. 241 :—"A camera for panoramic work must possess a construction entirely different to that of the ordinary camera, and it is based upon the following principle: if an objective turns in an horizontal position about a vertical axis, which is coincident with its second nodal point *n* (fig. 38), the image *A B* will remain motionless, since the point *n* is fixed, and the distance *n n'* of the second from the first nodal point is too small with respect to that of the object *A* from the apparatus for the rays proceeding from *n* to noticeably change their position with the movement of the camera. In proportion as the turning of the objective continues, the images of the points *C D E* will fall practically at an equal distance from *n* on the curved screen *a b c d e*, and thus, like that of *A B*, will remain fixed. Naturally this is only the case when the rays of light only include a small angle with the axis of the lens; the field of view of the lens is therefore contracted by 'slit

diaphragms' placed in front. If now there is a sensitive film bent into a circular form at *a b c d e*, or if a sensitive glass plate *P P* by corresponding mechanism is so moved that in proportion as the objective turns, it is placed tangentially on the whole circumference of the cylinder, we shall obtain a picture, the angle of view of which will amount to 180 degs. The pictures thus ob-

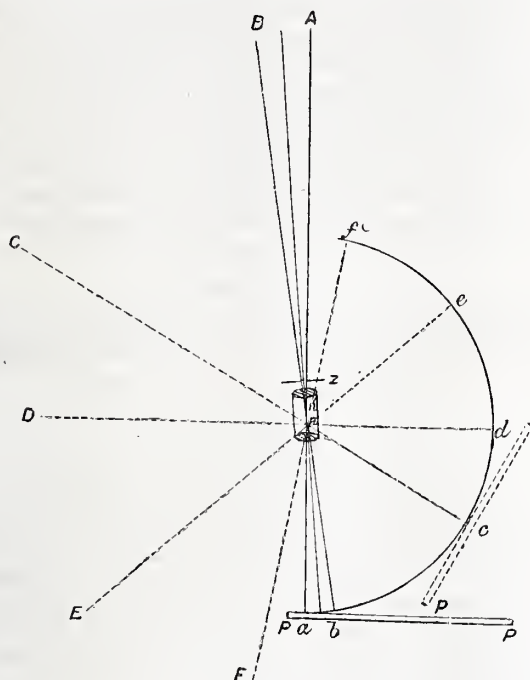


FIG. 38.

tained will appear in all parts absolutely sharp, since only the middle and best part of the objective is used; their perspective will be panoramic, that is to say, the vertical lines will be straight and vertical, but the horizontal lines above and below the horizon will appear somewhat curved. This disadvantage is, however, scarcely noticeable practically, and can be quite diminished when the pictures are bent into a circular shape and looked at from the centre of the circle."

In Commander Moëssard's Cylindrograph camera the lens is placed in the middle of the front and turns about a vertical axis; the lens board is joined to a flexible indiarubber cloth with the side pieces. The cloth forms a light-tight front, and permits the turning of the lens in any direction. The movement of the lens is effected by the handle, which carries the view meter, enabling one to see the view included by the lens. By the aid of a screw the lens can be raised or lowered, in order to include or exclude more or less of the foreground on the plate. With this it is possible to obtain a panoramic view, including an angle of 170 deg. On the lens mount is placed a diaphragm or light-excluding stop, which contracts the field of view, and forms generally a vertical strip on the sensitive surface. The breadth and shape of the stops is arranged according to the desired size, and the action of the image-forming rays on the sensitive film is proportional to the breadth of the slit of the stop. With instantaneous work the strip must be as narrow as possible, or elongation of the image of a moving object will result; where it is desirable to give a longer exposure to a landscape foreground, the stop slit is given a wedge form. The instrument is sent out focussed for any point not less distant than 100 times the focal

length of the lens, and a small moveable strip of ground-glass enables one to examine the image. If the lens is in focus, the image of any object remains stationary on the ground-glass when the lens is moved by the handle, but if the image moves forward in the same direction as the handle the lens requires moving away from the screen; if the image, however, moves in the opposite direction to the hand, the lens requires moving nearer the film. Both these movements are effected by a key actuating four regulating screws. The dark slide is made of flexible cardboard, and is placed flat on a table, the film inserted, and then closed, and they are placed in the camera at one end, and then bent round and clipped into place. Each apparatus can only be used for the size for which it is constructed, and the following table, given by Moëssard, and to which I have appended the English equivalents, gives the various sizes, etc.

FOCUS OF THE LENS == THE RADIUS OF THE CAMERA.		SIZE OF IMAGE.				LENGTH OF THE COM- PLETE PANORAMA.	
		Length.		Breadth.			
CM.	IN. (approx.)	CM.	IN.	CM.	IN.	CM.	IN.
10	or 4	28	or 11	8	or $3\frac{1}{2}$	63	or $25\frac{1}{2}$
15	" 6	42	" 17	12	" $4\frac{1}{2}$	94	" $37\frac{3}{8}$
20	" 8	56	" $22\frac{1}{2}$	16	" $6\frac{1}{2}$	125	" 50
25	" 10	70	" 28	20	" 8	157	" $62\frac{1}{2}$
30	" 12	84	" $33\frac{1}{2}$	24	" $9\frac{1}{2}$	188	" $75\frac{1}{2}$
35	" 14	98	" 39	28	" $11\frac{1}{2}$	220	" 88
40	" 16	112	" 45	32	" $12\frac{1}{2}$	251	" $100\frac{2}{5}$
45	" 18	126	" $50\frac{1}{2}$	36	" $14\frac{1}{2}$	282	" $112\frac{1}{5}$
50	" 20	140	" 56	40	" 16	314	" $125\frac{3}{5}$
55	" 22	154	" $61\frac{1}{2}$	44	" $17\frac{3}{4}$	345	" 139
60	" 24	168	" 68	48	" $19\frac{1}{5}$	377	" $150\frac{1}{5}$

M. Damoiseau has lately introduced another form of panoramic camera, which is seen in fig. 39, which, together with the following description, is taken from a paper read by M. A. Londe before the Société Française de Photographie on December 5th, 1890. The whole principle of the apparatus is by no means difficult to grasp. The camera is so fixed that it revolves on a circular table on a central axis, which is coincident with the optical centre (actually the nodal point of emergence), and the movement is effected by clock-work, which simultaneously actuates a sensitive film

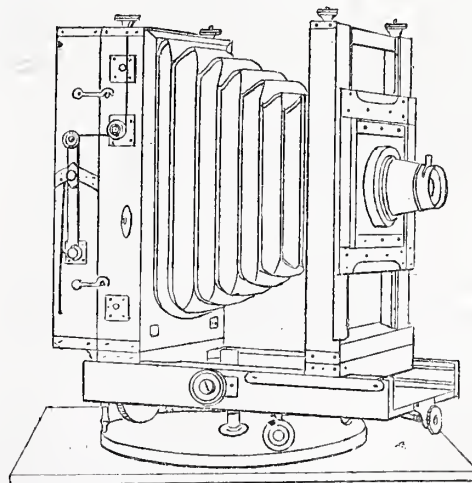


FIG. 39.

contained in a roll-holder, and which is thus passed continuously and synchronically behind a narrow slit; by this means it is possible to obtain a panoramic view of 360 deg. with any focus lens and any degree of

rapidity, the length of the panorama being dependent on the focus of the lens used.

To the amateur desirous of taking a panoramic view with his own apparatus we shall describe an apparatus which it is quite possible to make for oneself, or have made for one at no great cost. As the difficulty of obtaining any number of negatives and prints exactly equal in character increases with the number to be obtained, it is obvious that with a given size plate the longer the focus of the lens or the narrower the angle included—for the two are synonymous—the more negatives and prints we shall have to make identical; consequently it is advisable to use a lens which includes a medium or

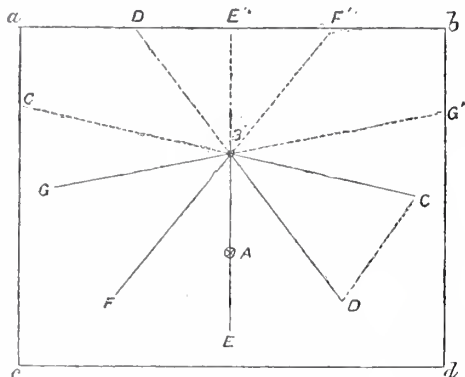


FIG. 40.

wide angle; on the other hand, the narrower the angle the more pleasing the perspective. The only accessory apparatus required is a good large table top stand, which should be marked in the manner shown in diagram (fig. 40). A B C D is the table top of convenient size, which is screwed to the tripod in the ordinary way at A, or the legs may be affixed to the table top by pins nearer the edges, which would render it firmer. At B is a second screw hole, with screws to keep the camera steady, and around which the camera may revolve when required; and a second base board should be fitted to the camera, so as to be attached by a screw to the ordinary screw hole; and this base board should take the form shown in fig. 41, in which the camera is attached to L by a flat-headed screw or one that is let in flush to the wood; and S S a slit in which runs the screw from the table top (fig. 40) through B, and exactly above which should be the lens. We shall then be able to rotate the camera round a point the axis of which will pass through the optical centre of the lens. If in doublets the diaphragm slot is over the screw and in single lenses the lens itself, we may assume it to be correct. Now referring back to fig. 40. We will assume the first position of the camera is at C D, the back of the camera being represented by the dotted lines; the lens is directed to a point midway between C' D', and C' D' will be the amount of subject included. We have only to expose and swing the camera round till the side of the camera which was at C now comes to D, and we shall include from D' to E' on the plate; then by again swinging the camera round from D E to E F and from E F to F G, exposing for an equal period after each movement to a fresh plate, we shall have

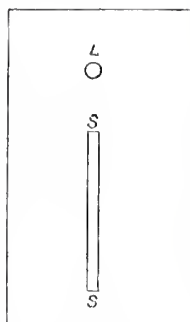


FIG. 41.

a series of four negatives which will include a panoramic view from C' to G', which will be an angle just equal to four times that included by the lens at each exposure. In order to make certain that we do not miss out any of the view, it will only be necessary to fix once for all two brass guides from the limits of the focussing screen and touching the table top, which may be marked in lines radiating from B, to be able to at once make the edges of the consecutive exposures coincide. For this work it is of course absolutely necessary that the plates should be of the same brand and preferably from the same box, that absolutely identical exposures should be given, and that all should be developed at once, for the same time; it will then perhaps be possible to obtain four identical negatives which may yield four identical prints.

(To be continued.)



Studies in Art for Photographers.

By REV. F. C. LAMBERT, M.A.

CHAPTER XII.

VALUES—KEY—SCALE—HALF-TONE.

WE have now seen that one of the great problems before all pictorial workers in monochrome is to adequately represent by contour line and varying measures of light and its absence (or darkness), the due proportion of brightness as seen in variously coloured objects. In other words, the problem is how may one best translate the values or brightness of coloured objects into black and white (or some colour and white, as the case may be)?

Taking fresh snow in sunshine as the top or highest point of our scale, and, say, the interior of a black velvet-lined tube as our lowest point, my note-book tells me that this length of scale can be subdivided into sixteen hundred intermediate distinguishable gradations. Taking the whitest of paper and the blackest (photographically) obtainable platinum black, we may in like manner obtain a scale of about 350 distinguishable gradations. With these 350 notes we have to reproduce a melody extending over 1,600 notes. One of two courses is obviously open to us.

Firstly: we may use our 350 notes, note for note as far as they will go, and ignore the rest. Three subdivisions of this plan present themselves. We may, for instance, make the scales agree note for note as far as they go, or we may make, say, the top or bottom of each scale agree, or we may pitch upon some arbitrary part of nature's scale, and make agreement as far as our available scale goes. We may regard any or all of these systems as modifications of the *absolute system*.

For the sake of illustration, we may use the simile of size. Suppose our task to be that of drawing a man, six feet in height, on a piece of paper twenty inches in length. We could draw his feet life size and shrink up the remainder; or taking his head life size and dwindle the body to that of a dwarf; or we might fix upon some intermediate part for exact size, and make him shrink at both ends. In any of the modifications of the absolute system we must usually have a compromise of very violent character.

Secondly: we may approach the problem in quite another spirit. Seeing from the outset that some compromise must be made, we may determine to distribute the compromise evenly, or nearly so, in order that it may be perceived as little as possible. Starting with platinum black and white paper, we set these to represent the darkest shade and highest light of the scene in question. Anything then in

the natural scene midway between the highest light and deepest shade should accordingly be represented by something exactly midway between white paper and platinum black. In the same way anything three-fifths down nature's scale must be placed three-fifths down the artist's available scale, and so on; each part being represented by a degree of the available whiteness strictly proportional to its relative whiteness. It is extremely probable that no painter has ever carried this out with strict accuracy, while many have followed the plan in part, but take very considerable licence in striving after special effects. This matter is so entirely fundamental in all pictorial arts (poly or monochrome), that a glance at three types cannot fail to be suggestive to the liberal-minded student.

Comparing the three masters, Rembrandt, Turner, and Paolo Veronese, we find Rembrandt follows more or less closely, *i.e.*, proportionally, the highest lights, but as soon as we get but a little way down nature's scale, he rushes, as it were, before nature, so that before he is half-way down nature's scale he has used up all his powers of strong darks, and beyond that point everything is practically merged in blackness.

On the other hand, Veronese begins fairly well at the lower (darker) end of nature's scale, but by the time he is half-way up towards the brightest light he has, so far, outstripped nature as to leave a greater part of the upper half lost in brightness.

While Turner follows carefully the upper half with a fine perception of proportion, but often finds it going sadly against his grain to follow nature proportionally in the lower shades; and thus we find in so many of his pictures very little dark-coloured shadow. This is one reason why he is able to outstrip others in the luminosity of his shadows. While each of the three above-mentioned masters shows some measure of excellence over the others, yet, on the whole, we find Turner is the more generally consistent throughout, and he may for several reasons (too technical to find discussion at present) be taken as an admirable master to follow.

Key.—To return to our musical simile, we may say that once having heard a melody we may produce it note for note in the same key, or we may transpose it to some other key, retaining the same relative intervals. In some such way may we think of a painting being transposed into a sometimes higher, or (more often) lower key. The relative intervals are preserved as far as may be, but the whole is lowered, either in luminosity or harmoniously changed throughout in illumination, much in the same way as though one saw the whole picture through some partly transparent medium, which withdrew the same quantity of light from all parts uniformly throughout the scene.

Thus we may very properly speak of one portrait being painted in a high key, while another may be in a low key.

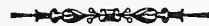
Scale.—Again it is by no means necessary or even desirable that we should at all times use the extremes of black and white. The nature of the subject may very well be such that we may find it desirable to employ either the upper or lower or middle part of the available range of light and shade. Thus we may speak of a picture extending over a long or short scale. For instance, a study of gray plumage might very well be limited to a small range of light and shade. Various atmospheric effects (including the too familiar but unpalatable London fog) have marked effects on scale. This must be familiar to every one who has watched the effect of a sunset or waning light on distant scenery.

Everyone is more or less familiar with the effects of a scene under moonlight and how familiar forms take on strange semblance. The twilight and the gloaming are the restricted property of the poet, and much of their

emotional effect is due to the marked modifications of scale as compared with the familiar daylight effects.

While the subjects of scale, key, and values are fresh in mind it will be worth while to ask the student to note how each great master will from time to time alter his scale or key to suit his subject. This is the case with many of those masters who usually show a partiality for some special system. Now in the case of most photographers their chief and only aim has been to obtain the utmost measure of that which it is recently the fashion to dub "half tone." A moment's thought will make it clear that there can only be one "half tone," *i.e.*, one degree of illumination exactly midway between the highest light and the deepest shade.

The observant worker will show his wisdom by causing to prevail that part of his available scale which demands the chief attention in his subject.



The Action of Light on Chloride of Silver.

BY M. GUNTZ.

THE action of light on chloride of silver has been much studied, especially in the last few years, but without any one being able, in a certain manner, to grasp the mechanism of this transformation. The experiments made have merely led to contradictory results.

A large number of experimenters have studied the loss in weight of chloride of silver exposed to light, and have found that at the end of a very long time this loss was very little, varying from $\frac{1}{1000}$ to $\frac{1}{100}$ of the weight of chloride of silver used. M. Bibre contends that he could not observe this loss in weight.

Lastly, quite recently Mr. Romyn Hitchcock,* when exposing chloride of silver in very thin films in the air to the sun for one hundred hours, has obtained a variable loss of chlorine, for the different thicknesses of chloride, comprising from 7 to 9%; he admits 8% at least, and deduces for the formula of the compound Ag_2Cl_2 , which one may perhaps write $\text{Ag}(\text{AgCl})_2$. He has found, in fact, 28% of silver soluble in nitric acid. Mr. Richardson,† in studying the decomposition of chloride of silver in the presence of water, has proved that by the action of light we have first the formation of chlorine, then of the products of the action of chlorine on the water, that is to say, hydrochloric acid and ozone (according to the author); that, moreover, the product formed is not an oxychloride, for if pure hydrogen is passed over the dry product heated, one is able to prove that there is no formation of water. He has also obtained the coloration of chloride of silver under tetrachloride of carbon deprived of air by boiling. He concludes by saying that the formula of the product of alteration still remains to be determined.

What is the compound which is formed by the action of light on chloride of silver? It is just this which hitherto one has not been able to establish because of the contradictory results obtained by the different chemists in their efforts to prepare a chloride containing less chlorine than the normal chloride of silver. I have undertaken the study of this action, and the following are the results to which I have arrived.

When one exposes chloride of silver AgCl to light, one proves that if one takes silver chloride distributed in a very thin film on a sheet of glass, it is not coloured at all in the

* *American Chemical Journal*, April, 1891.

† *Chemical Society*, May 7, 1891.

first instance by the action of light, but that if it is placed in a solution of a developer—for example, the ferrous oxalate developer as used for gelatino-chloride plates—the chloride of silver is reduced with the formation of metallic silver. There is then produced a transformation of silver chloride, without loss of chlorine, susceptible of being reduced by a developer.

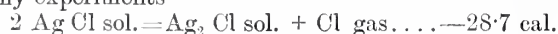
We are acquainted with several isomeric transformations, or several different states of condensation of chloride of silver forms with the varying disengagement of heat, as has been demonstrated by M. Berthelot in studying the heat of solution of chloride of silver in cyanide of potassium.

Moreover, I have been able to produce directly in the absence of light a modification of chloride of silver immediately reducible by the ferrous oxalate developer in the dark, whilst the primitive chloride of silver is not reducible. It is sufficient to obtain this modification to boil for some hours chloride of silver in the dark.

If, on the contrary, one exposes chloride of silver for a certain time to light, one sees that it takes a violet-red tint, at the same time that there is a loss of chlorine. I have proved that in a vacuum, chloride of silver becomes coloured a violet-red; when working in air, I have been able to prove the disengagement of chlorine and a loss in weight.

The disengagement of chlorine may be proved by taking chloride of silver dry or wet, and by concentrating on it by means of a lens the solar rays; the disengagement of chlorine is then very clear in the first moments. There is formed subchloride of silver Ag_2Cl of a violet-red colour. This formation is proved by the identity of the colour and of properties with the subchloride of silver well defined, which I have obtained by double decomposition with the subfluoride of silver. In fact, cyanide of potassium and ammonia decompose it, giving metallic silver; nitric acid poured on it does not dissolve any silver.

This formation of subchloride of silver by light is produced with an absorption of heat of 28.7 cal. According to my experiments



This result is very important; it shows that light does a considerable amount of work in effecting the decomposition of chloride of silver. It explains how the action of light is so much facilitated by the addition of substances capable of absorbing chlorine with the disengagement of heat, and of the introduction also of a strange energy which facilitates the decomposition.

The decomposition of chloride of silver being produced with an absorption of heat which is furnished by the light, the decomposition of chloride of silver ought to be proportional to the quantity of light received. If one tries to verify this proportionality, one easily finds that it does not exist. That is dependent upon the extreme opacity to light of the subchloride of silver, which absorbs the rays that have served to produce it, and which consequently makes the alteration of the chloride of silver purely superficial, $\frac{1}{500}$ of a millimetre at the most, according to my experiments.

The subchloride of silver being formed is itself decomposed by light into silver and chlorine, as I have proved by means of the subchloride prepared by chemical means; there is formed, as the final product of change, metallic silver. Lastly, then, a film of chloride of silver exposed to light is composed of three superimposed layers: the first of metallic silver, the second of subchloride of silver, the third of unaltered chloride of silver, and these three layers have a thickness according to the duration of exposure to light and the primal thickness of the film of chloride of silver.—*Moniteur de la Photographie*.

Permanent Prints.

BY BROWN SLICK.

THE first thing to be settled is whether there is such a thing as permanency in prints. The battle between Platinotypes and Bromides has been generally admitted to be a draw. Neither side has been proved to be vanquished. It therefore remains for time alone to prove which will last the longest under ordinary circumstances. Platinotypes are usually credited with having most chance of lasting, but in Tolley's "Lonely Shore," hanging in the Club-room, may be seen a good specimen of a print which has now been out here for some years, which has not lost anything to speak of in the strength of the blacks, but what about the whites? they have (like every other photograph in India sooner or later does) lost their purity, and if examined in a good light will be found to have turned quite yellow. I mentioned this once at the Camera Club in London, and was met with the ready answer that the print had evidently not been washed sufficiently, and there the matter had to drop. So far, my experience with Bromides has been, that they keep out here quite as well as Platinotypes, and until a few days ago I had nothing but the highest opinion of them. Alas! Not so to-day.

In the summer of 1890, while in England, I printed a quantity of Bromides and Platinotypes and spared no trouble to wash them perfectly with a view to keeping them in India. Some I mounted in a book, and the rest were mounted on cards for framing. Seven months only have gone, which any one will admit is no test at all, but unfortunately quite enough to seal the fate of three Bromides. On turning over the pages of my book, I found to my dismay that where a Bromide print faced a Platinotype, it had (I mean of course the Bromide) turned quite brown and was vanishing into clear white paper. Turning over a few more pages I found the same thing again, and it turned out that wherever a Bromide and Platinotype come face to face that it was all up with the Bromide, while in no case has a Platinotype suffered in the least. Of course the first answer to this is that there must be some acid left in the Platinotypes which acts chemically on the silver of the Bromides. Well and good, but it is very poor fun if we are to keep different books for every different sort of print. There is, however, one point about my faded Bromides which hardly bears out the acid theory; if there is acid left in the prints, the whole of the picture in Bromide ought so fade away; not so, however, the black of the Bromide only disappears where it comes in actual contact with the actual black of the Platinotype, and I am more inclined to think it is more of a galvanic action between the silver and the platinum.

I shall be very glad to show these prints to any one who is interested in the case, as I think it is a most important subject, and ought to be investigated if possible. The Bromides mounted on cards and framed have not deteriorated in the least, so that it is not likely that my manipulation was at fault. I have only to add that the paper used was Eastman's, which, I suppose, is as good as any that can be got.

I trust that members who work this process will let us know whether they have anything to say on the subject.—*Journal of the Photographic Society of India*.

Brighton Photographic Society.—An excursion was held on the 3rd inst., to East Grinstead, the Tunbridge Wells Society participating. By the kindness of the Warden, the party were allowed to photograph Sackville College—a grand old pile of almshouses—and were personally conducted round the building and grounds. The old houses in the High Street and the church occupied the attention of the members until past four.

Holiday Resorts and Photographic Haunts.

NORTH WALES AS A FIELD FOR PHOTOGRAPHY.

(Continued from page 100.)

BY JOHN A. HODGES.

IV.—*Bettws-y-coed—A Photographer's Paradise—Coaching Centre—The Scenery Described—The River Conway—Llanwrst—The Tidal Portion of the Conway—Capel Curig—Pont-y-pair—Miners' Bridge—Swallow Falls—Topographical Work—A Riverside Stroll—Moel Siabod—Friendly Caution—Snowdon from Capel Curig—Cloudy Weather—The Fairy Glen—More Topography—A Hint as to Time—An Old Bridge—Machno Mill and Falls—The Lledr Valley—A Fine Composition—Pont-y-Pant—Some Technical Hints—Expenses—Plate Packing—Dark-Rooms—A Good Maxim—Cycling—Good Roads—The Native Tongue—Conclusion.*

WE now enter upon the last stage of our journey, and proceed by train to Bettws-y-coed. This truly charming little village will, no doubt, be considered by many of my readers the prettiest spot in Wales, and certainly it would be a difficult matter to take exception to the selection. There is no doubt, however, as to the suitability of the locality for the purposes of the photographer, the one objection to the place being that it is visited by large numbers of day excursionists. Unfortunately, too, no district has been more photographed than Bettws, but the reader will quickly find that he has ample material upon which to work, even though he abstain from exposing a single plate on such well-known spots as the Fairy Glen, the Miners' Bridge, etc. Specific directions are almost unnecessary; the scenery of the neighbourhood is very rich and varied in character, and it would be difficult to choose an unremunerative ramble. In addition to these natural attractions it has the further advantage of being the headquarters, as it were, of the coaching traffic, coaches leaving for Beddgelert, Bangor, Capel Curig, and Llanberis daily, so that should these places not have been included by the reader in the earlier portion of his tour he can easily make the return journey from Bettws in a day. The hotel accommodation is excellent, and comfortable lodgings may be obtained in and about the village. Three rivers unite at Bettws—the Conway, the Lledr, and Llugwy, and the strong feature of the place is, naturally, its river glen scenery. Beginning with the most important of these rivers, the Conway, it will well repay the photographer to stroll down its banks to Llanwrst, at which place there is a picturesque bridge with a very graceful span, a very pretty view of which may be obtained from near the church, looking across stream to some old cottages. The stream above bridge flows silently, deep pools and quiet rippling shallows having taken the place of the sparkling cascades and falls of the upper river. Llanwrst itself is a singularly uninteresting town, and time spent in exploring it would be wasted, but Trefriw, two miles lower down, is well worthy of a visit. Below Trefriw the Conway becomes a tidal river, and at Tal-y-cafn there is a picturesque collection of cottages, a jetty and ferry, from which material, by skilful treatment, some good work could be got. Carnedd Llewellyn and Carnedd Dafydd are seen to great advantage from about here. The river below this point is more conveniently explored from Conway. Capel Curig must on no account be missed; the high road to Llanberis is taken, passing first Pont-y-pair, a charming but much photographed old bridge, the best view of which is from a huge rock in mid stream; a mile further the Miners' Bridge is reached, which must be seen, if not photographed. From here a path by the river leads, in about another mile, to the celebrated Swallow Falls. There are really two falls, an upper and a lower, and it is a difficult matter to get both on the plate, so as to form a pleasing composition. Such subjects do not, as a rule, make good photographs, the falling water very often looking like cotton wool, or whitewash, and the rocks unintelligible masses of shadow. Personally I eschew such subjects, unless I require the negative for a special purpose, such as completing a lecture series or the like. If the road be left at Ty-Hyll Bridge, and river followed, which here runs through some meadows, several pretty subjects may be found. The walk will involve an occasional scramble through rank undergrowth and low hazel bushes, which here grow luxuriantly, but the really grand views of Moel Siabod which are obtainable from time

to time will amply repay the extra exertion. Strictly speaking, we shall be trespassing, but the only persons whom we shall offend are the anglers, and of course we shall take care not to go near the water in the neighbourhood of their casts. Upon reaching Pont-y-Gyfyng we regain the main road, and presently, on approaching Capel Curig, Snowdon bursts into view. By slightly ascending some rising ground on the right, a still better composition will be obtained. A few plates, however, should be reserved for Snowdon as seen from the grounds of the Royal Victoria Hotel for which permission must be obtained. It should be noted, in order to avoid disappointment, by those whose time is limited, that in bright weather most of the views mentioned in this excursion must be taken before 11 a.m., or in the evening, otherwise the sun will be too much in front of the camera. Showery weather, with bright intervals of sunshine, provides the most suitable atmospheric conditions for photographic purposes, the effects then obtainable in a mountainous district being frequently very beautiful. Strong sunlight unrelieved by cloud should if possible be avoided, and under such circumstances early morning and evening will be the best times for working.

The upper portions of the Conway and its tributary, the Lledr, yet remain to be explored. On our way we shall pass a fine reach, known as the Beaver's Pool, which, seen from the bridge near the entrance to the Fairy Glen, makes a charming picture. Just beyond this we reach the Fairy Glen. This beautiful though well-known spot has been often painted and, perhaps, still more often photographed. Notwithstanding this fact, few photographers who visit it with a camera will, on that account, refrain from making an exposure, for a more beautiful combination of rock, water, and foliage it would be difficult to find. Here too, early in the morning or late in the evening will be the best times to photograph; the lighting will be better, and the glen free from the incursions of the day trippers. A little higher up the stream we come to the Conway Falls, but they are in such a confined situation as to render the taking of a photograph a very difficult operation. About half a mile from here, with the assistance of an old man whose pleasing function it is to extort pence from the unwary, an old bridge will be found which, with its reflection in the still pool below, makes a pretty picture. A few hundred yards below, the falls of the Machno and a picturesque old mill, beloved of artists, will be reached. Its situation, however, is exceedingly cramped, and it is a difficult and rather dangerous matter to get a good point of view; steady nerves are necessary to succeed in the attempt, for a slip here would precipitate one into the boiling waters of the fall. A full day may be well devoted to exploring the Lledr Valley as far as Dolwyddelan. In the opinion of the writer, the scenery from the point where the viaduct intersects the valley to Pont-y-pant is the finest of its kind to be found in North Wales. The huge detached masses of rock which lie scattered over the valley should occasionally be ascended, the views so gained being very fine. The old bridge at Pont-y-pant makes a pretty photograph from several points of view, one of the best being from a large rock in mid stream just above the hotel, which, by the way, is a very comfortable hostelry at which to stay. I could occupy many pages in suggesting other remunerative rambles in the neighbourhood of Bettws, but the space placed at my disposal by the Editor is exhausted. Enough, however, has probably been said to whet the intending visitor's appetite for what is in store for him in the way of pictures. The golden rule in photography should not be overlooked, "Expose for the shadows, the lights will take care of themselves." Disregard of this advice causes more failure than anything else, and the reason I emphasize the point here is that much of the work to be done in the locality here referred to will be in confined situations, or with subjects showing great contrast of light and shade. In regard to expense, accommodation suiting pockets of varying capacity can always be found. The larger hotels provide all the luxuries that a modern Croesus would find at a west-end hotel, and at the same time the economically minded visitor can obtain all he requires in the way of accommodation at the most moderate tariff.

A sufficient number of plates to last throughout the tour (*purchased direct from the makers, and prepared from the same emulsion*) should be taken, notwithstanding the slight increase in the weight of one's luggage, as few opportunities of purchasing locally will occur; moreover, when plates are procurable, there is always the possibility of their being stale. I always pack my plates, exposed and unexposed, in their original boxes, wrapped well up between my clothes in box or portmanteau, taking care

to keep them in the centre. So treated, I have carried thousands of plates and have rarely met with breakage.

In regard to changing plates, some hotels have dark-rooms, but I would advise the reader to purchase one or two extra dark-slides rather than run the risk of changing in an unsafe light. Be it remembered that over-production is the bane of photography, and an average of six plates a day exposed during a holiday of a fortnight or three weeks' duration will afford plenty of work in developing and printing for even the most enthusiastic amateur. Some few photographers who should know better have acquired a reputation for exposing enormous quantities of plates—one gentleman, I believe, rather boasts of having got through a gross of plates at Bettws alone, but out of all these exposures his friends have been permitted to see but a very small proportion of pictures—*verb. sap.* Let quality of work, and not quantity, be our aim.

Two more points occur to me and my pleasant task will be ended. A great number of amateurs combine cycling with their photography at the present time, and it may interest such to learn that no better district could be chosen than North Wales; the roads throughout are maintained in excellent condition, and although the district is for the greater part a mountainous one, the gradients are easy and the running good.

It may be well to remove any possible apprehension which may exist in the minds of some as to "being understood of the people," by stating that the visitor will have great difficulty in finding a Welshman who cannot speak English in any of the districts frequented by tourists, and only in remote places in the mountains will his enquiry be met with the characteristic "nan-Sassenig"—"no English."

In conclusion I can only hope that those whom these notes may induce to visit North Wales, will derive as much pleasure from their holiday as the writer on many occasions has experienced. The information I have endeavoured to impart is necessarily not so comprehensive as I should desire, but I shall be glad, through the Editor, to answer to the best of my ability any question that may be addressed to me.

Exhibitions.

CARDIFF INTERNATIONAL PHOTOGRAPHIC EXHIBITION.

THE committee of the Cardiff Photographic Society have evidently been satisfied with the results of their two former exhibitions, for they determined to make the visit of the British Association to the town of Cardiff the *raison d'être* for an exhibition this year, instead of putting the usual interval of three years between them. This shows an amount of energy and go on the part of the executive that must be commended, and it is to be hoped that financial success will crown their efforts. It has, however, one serious drawback. The amount of good work shown for the first time is very seriously curtailed, and the labours of the critic are in consequence made much lighter. The number of well-known pictures already fully described in these pages is unusually large. This is, of course, to be expected in the Champion Class, but it is the same, unfortunately, in all the classes, and therefore the quantity of pictures calling for special mention is unusually small. It was expected that the Marquis of Butc would open the exhibition, but another engagement made that impossible, and, in consequence, there were none of the usual formalities attendant upon the opening of an exhibition. This is by no means to be regretted, for, instead of wasting half the evening with trite remarks and well-worn platitudes, Mr. Allen, one of the officers of the society, with a few, well-chosen words, introduced Mr. Paul Lange, who had arranged to give them one of his charming lectures on the "Land of the Midnight Sun" for the opening night. His lecture on "Iceland," at the opening of the Gloucester Exhibition, had prepared us for a great treat, and in no way were we disappointed. There was again the same magnetic touch between the lecturer and his hearers, and everyone felt that the lecture, which occupied an hour and a half, was too short. Of course, there was no possibility of looking at pictures that night.

The splitting up of the exhibits into so many classes makes it impossible to produce a striking effect in the display of the pictures, for of course the entries in each class are

as much as possible kept together, and follow on round the room. It has happened, in consequence, that nearly all the right-hand wall is occupied by very small pictures, and to the Champion Class—which is made up almost entirely of large pictures—has been given the worst-lit position in the room. We feel it right to call attention to this defect, for the proper display of the pictures should be the first consideration, and had the Champion Class occupied the centre of the right-hand wall the general effect of the exhibition would have been immensely improved.

The entries in the professional portrait class are not numerous, but there are some very effective pictures of large size framed close up that at once seize the eye on entering the gallery. A closer inspection shows an amount of retouching that is quite unnecessary on work so large and powerful. These are by W. W. Winter. The highest praise can, however, be given to the small portraits of children sent in by the same gentleman. Simple in pose and powerful in lighting, these little gems stand out and command attention.

Mr. J. H. Hogg's "Hamlet and Ophelia" scarcely come under the class of portraits, and the same may be said of "Finishing Touches," where a young lady is occupied in painting vases. This is a well thought out picture, and the pose of the lady is simple and unaffected. There is a little formality in the arrangement of jars awaiting their turn for decoration, and perhaps the latticed window immediately at the back of the figure attracts too much attention, but the picture is well worthy of notice.

Prince Ruffe exhibits some portrait studies, of which several are admirable. A handsome head with peaked beard is framed by ermine-edged cap, and the high collar of the cloak, also fur-lined, completes the framing of the face. The lighting is very perfect, and the texture of the flesh remarkable. The picture might pass for the portrait of some sixteenth century Doge of Venice.

H. P. Robinson has sent several landscapes, one or two of which are quite new to us. "Fast Falls the Eventide" displays the art cunning of the master. The whole picture is low in tone. In the foreground tired horses patiently await the opening of the stable door, while in mid-distance two rustic maidens are making their way back through the farmyard, probably returning from milking; an old-fashioned barn in the distance completes the composition. The materials for this picture can be found in any rural district, and are commonplace enough, but it needed the eye of the artist to group and arrange them into this delightful bit of rusticity, and amateurs in search of the picturesque would do well to see the picture and take a lesson from it.

Mr. Patterson Gibson shows his strength at Cardiff, and "The Road to the Mill" exhibits what can be done with the camera when used by an artist. This picture has been exhibited before, but is not as well known as it should be.

Mr. Birtles has managed, like Leader in this year's Academy, to make a really fine picture out of apparently impossible materials. The subject is the Manchester Ship Canal in process of construction. The shimmering silver ripple tells with great effect against the snakelike column of black smoke that trails its sinuous way across the scene. The picture is made by the skilful opposition of light and shade.

Mr. T. H. Faulks has been very successful with his interiors, more particularly with those of Cardiff Castle; indeed, considering the difficulties—for a *modern* antique is not easy to deal with in the camera—they could not well be better.

Mr. Terras has scored this time with his two little pictures. They are cottage interiors, and in the "Engagement Ring" the Scotch lassie watches with anxious eagerness, whilst the elder woman, with careful deliberation, judges the worth of the ring and the laddie at the same time. The title of the second picture explains the subject. An old woman is busily employed trimming the vegetables for the pot, and it is called "Preparing Dinner." The figures in both the pictures are homely and natural, and the accessories are not overdone. The work is up to the level of Adam Distin, and Mr. Terras, who is an apt pupil, has reason to be satisfied with his success.

Mr. Percy Morris has been very successful with his hand-camera work, and his subjects are well chosen; and the same may be said of the work of Mr. W. D. Welford. In this class Major Lysaght's groups are very natural and well chosen.

Mr. B. Alfieri is successful with his animal studies, and in one where the camera is looking upwards the sheep stand out boldly against the sky, and the resulting picture is striking and original.

Mr. W. H. Kitchen, in his "Cutter Race," has produced an

unusually artistic picture. The clouds are heavy and threatening, and there is evidently a stiff breeze, for the boats appear to be going through the water at a pretty smart pace, and the low grey tone admirably expresses the scene.

Mr. J. E. Austin has produced an admirable portrait of Mr. H. P. Robinson. The face is in profile and looking down at a newspaper, and the whole pose is simple and unaffected.

A "Laughing Dorkie" with slouch hat carelessly placed on his woolly pate is simply life-like, and is the work of Clarence B. Moore, an American photographer.

Miss Rose Collier has quite distinguished herself with her portraits. The lady in Spanish dress, at first sight, looks like a copy of a picture from the walls of the Academy, and some of the portrait studies of Mr. H. J. Jenkins are excellent. A little more difference between the tint of the background and the face will, however, make his work much more effective.

Mr. Horsley Hinton has made a distinct advance in his "By Reedy Ways." It is of the out-of-focus school, and is printed on very rough paper, but the chiaroscuro is so broad and effective that when the beholder gets far enough away to lose consciousness of the methods employed, he will find a very striking artistic picture before him.

Mr. Hamilton Emmons has some interesting pictures in very warm tone; the best is "Sunset on the Nile."

A special prize was offered for the best series of six prints produced during the Cardiff Society's outings. This is a capital idea, and may very well be copied by other societies. The prize of £5 was divided between Mr. C. H. Murrell and Mr. W. H. Kitchen.

Some very striking geological studies by Mr. W. L. Howie claim special attention, and a label attached to each explains the special characteristic of each.

A very considerable series of lantern slides have been sent for competition, and will be shown each evening during the exhibition.

A large series of photographs of topographical or antiquarian interest have been collected in furtherance of the scheme for a complete county survey. These are arranged in a well-lit gallery adjacent to the principal room, and well deserved a careful examination.

The following is the list of awards:—

Class 1 (Portraits, Professional).—Silver medal, W. W. Winter; bronze medal, Prince Ruffo; certificate of merit, J. H. Hogg.

Class 2 (Landscape, Professional and Amateur).—Silver medal, J. P. Gibson; bronze medal, H. P. Robinson; certificate, J. Birtles.

Class 3 (Architecture, Professional and Amateur).—Silver, C. Court Cole; bronze, T. H. Faulks; certificate, A. J. Loughton.

Class 4 (Genre, Professional and Amateur).—Silver, Robert Terras; bronze, J. E. Austin; certificate, S. N. Bhedwar.

Class 5 (Enlargements, Professional and Amateur).—Silver, West and Son; bronze, W. H. Kitchen; certificate, T. B. Sutton.

Class 6 (Hand-Camera Work, Professional and Amateur).—Silver, Percy Morris; bronze, Major Lisaght; Certificate, W. D. Welford.

Class 7 (Animals, Professional and Amateur).—Silver, Bernard Alfieri; bronze, W. D. Welford; certificate, Mrs. Pollard.

Class 8 (Instantaneous, Professional and Amateur).—Silver, H. Symonds; bronze, W. H. Kitchen; certificate, A. R. Dresser.

Class 9 (Lantern Slides and Genre, Professional and Amateur).—Silver, J. E. Austin; bronze, Mr. and Mrs. Anckorn; certificate, Major Lysaght.

Class 9a (Landscape).—Silver, E. G. Lee; bronze, J. Dore; certificate, A. Pringle.

Class 9b (Architecture).—Silver, A. Pringle; bronze, E. Beck; certificate, T. H. Faulks.

Class 9c.—Silver, Priestly and Sons; bronze, West and Son; certificate, J. Dore.

Class 10 (Champion, Professional and Amateur).—Gold, Shapoor N. Bhedwar.

Class 11 (Portraiture, Amateur).—Silver, Miss Rose Collier; bronze, H. J. Jenkins; certificate, C. B. Moore.

Class 12 (Landscape, Amateur).—Silver, A. Horsley Hinton; Silver, Hamilton Emmons; bronze, A. R. Dresser; certificate, H. Holt.

Class 13 (Genre, Amateur).—Silver, J. E. Austin; bronze, J. E. Dumont; certificate, T. M. Brownrigg.

Class 14 (Landscape, six quarter-plates, Amateur).—Silver, W. L. Howie; bronze, W. H. Kitchen; certificate, J. E. Austin.

Class 15 (Best Collection of Fifty Slides illustrating a District).—No award.

Class 16 (Best Six Prints on Society's Excursions during 1890-91).—£2 10s., C. H. Murrell; £2 10s., W. H. Kitchen.

A medal was recommended by the judges for the Geological Series, by W. L. Howe.

The judges were Valentine Blanchard, Gambier Bolton, and Paul Lange.

The Picture Galleries.

PICTURES AT THE PEOPLE'S PALACE.

By "LOITERER."

MR. WALTER BESANT'S heroine, Angela Messenger, says of her Palace of Joy:—"Enter in, my friends, forget the squalid past; here are great halls and lovely corridors—they are yours. Fill them with sweet echoes of dropping music; let the walls be covered with your works of art; let the girls laugh and the boys be happy within these walls. I give you the shell, the empty carcase; fill it with the spirit of content and happiness." These words were recalled to my memory when I visited on a recent evening the Picture Exhibition at the People's Palace. There are more than five hundred excellent pictures on view, many of them being extremely valuable. The Prince of Wales has lent Angeli's admirable portrait of himself. The Duke of Westminster sends Turner's "Mouth of the Thames," a pretty landscape by Old Crome, and canvasses by Van Marcke, Calcott, Goodall, and others. Mr. J. Passmore Edwards, formerly M.P. for Salisbury, lends several fine pictures; and from the *Illustrated London News* have come some famous originals of presentation pictures. The exhibition is thoroughly popular in its contents, and includes examples of many of the great masters. Of course, domestic subjects are most appreciated, *e.g.*, Mrs. Alma Tadema's "May I Come In?" Mr. W. P. Frith, R.A., is represented by "The Match Sellers" and "Merry-Making in the Olden Time;" Mr. Henry Moore's "Moonlight" seems to attract general attention, as does likewise Mr. Jacomb Hood's "Jairus' Daughter." It is interesting to listen to the sensible and intelligent criticisms passed upon the pictures by the visitors, especially during the evening, when working men and women are in a majority. The "impossible story" has become a fact. Art lives at the East End. One may favourably contrast the pleasurable interest with which these pictures at the People's Palace are enjoyed with the blasé hypercritical glances at a West End exhibition.

The crowds which daily throng the People's Palace, and will continue so to do until September 5th, are most appreciative. One sees the tired look vanish from the careworn face which gazes on Mr. Phil Morris's "Babes in the Wood." In the water-colour section there are some well-known pictures which have been lent by the *Graphic*. Nor must we forget to say that many exhibits are loaned by the artists themselves. There is, also, a capital collection of drawings and models which are the work of pupil teachers and scholars of the School Board for London. Organ and pianoforte recitals further enliven the exhibition, and the People's Palace Military Band discourses excellent music on Monday, Thursday, and Saturday evenings. The charge to view is *one penny*.

"Amateur Photographer," "Holidays with the Camera," Competition (Second Year).—Prizes: Gold, Silver, and Bronze Medals, and Certificates with special prizes of "Niece or progressive medals for past prize-winners. In all, *twelve prizes* will be placed at the disposal of the judges.

SUBJECTS.—All photographs are eligible that have been taken during the "Holidays," but must be landscape or sea pieces, with or without figures, views of town, photographs of cathedrals, churches, public buildings, etc., but *not* *portraiture, figure study* of pictures which could be classed as "Photography at Home."

NUMBER.—No more than twelve, or less than six prints are to be sent in. They must all be mounted. They will be judged upon their merits as a whole.

DESCRIPTIVE NOTES.—Each competitor must contribute a short account of his holiday, to be not less than 500 or more than 1,000 words.

DATE.—All photographs must be received on or before the 31st of December, 1891.

RULES, CONDITIONS, and ENTRY FORMS will be forwarded on receipt of stamped addressed envelope. The application should be addressed, "HOLIDAYS WITH THE CAMERA," Editor, AMATEUR PHOTOGRAPHER, 1, Creed Lane London, E.C.

Apparatus.

HAND-CAMERAS BY WALTER GRIFFITHS AND CO., LIMITED.

It is now nearly two years since Mr. Walter Griffiths brought out his well-known "Guinea Detective or Hand-Camera." So great has been the success of this cheap and useful camera that not only has Mr. Griffiths brought out many other cameras, but he has formed a company with a considerable capital in order to assist him to carry on his ever-increasing business. The works, which are commodious, and specially planned for carrying on the manufacture of photographic apparatus, are in Highgate Square, Birmingham.

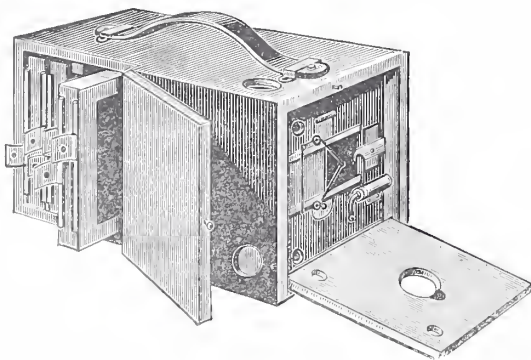
We will take the cameras in order, beginning with the "Guinea." This has frequently been referred to in these columns. With it dark-slides are used, three being supplied. It is fitted with a single lens working at $f/9$; the lens is of 4 in. focus, and everything is in focus within 10 ft. A pneumatic shutter can be fitted, if desired, for a small extra charge.

The "Guinea and a Half" is a camera of similar construction, except that it is fitted with a patent magazine which carries twelve plates, worked through a sleeve. The magazine can easily be removed and changed for another while in the field.

The "Stereoscopic Hand-Camera" is really a pair of "Guinea" cameras arranged in one case, and, of course, fitted with twin lenses. This camera, when fitted with patent shutter for time or instantaneous exposures, is sold for two guineas.

Griffiths' "Lantern Slide Camera" should be the constant companion of all lantern slide workers. The Company's circular says of it:—"Nothing to do beyond inserting negative at one end and lantern plate at the other." An enlarging camera is made upon the same principle. Both cameras are very cheap, and thoroughly fulfil all that is required of them.

Messrs. Griffiths' latest camera, which is far in advance of the above, is their "Two and a-half Guinea" 5 by 4, made with dark-slides, of which we give an illustration. It measures $9\frac{1}{4}$ by $6\frac{1}{2}$ by 5, and weighs under 4 lbs. charged. Pictures may be taken horizontal or vertical, for which purposes two finders are fixed. An



ingenious pneumatic shutter is attached, and the lens gives good definition, of which fact our readers will be able to judge from the photograph taken with this camera which we reproduce.

Few firms have put upon the market in so short a time so many really cheap and useful cameras. We understand the sale of them is very large, and, at the price, it would be difficult to find better value.

Photography at the Cape.—The *Cape Argus* of July 15th says:—"At a few minutes before two o'clock this afternoon, the members of the House of Assembly underwent the operation of being photographed in the House. The Speaker was in the chair, the mace was on the table, and the members were present in full force."

Societies' Meetings.

Birkenhead.—The usual monthly meeting was held on the 13th inst., the President, G. E. Thompson Esq., occupying the chair. Captain J. W. Batchelor was unanimously elected a member. Mr. J. A. Forrest exhibited some very interesting 7 by 5 views taken by Mr. Paul Lange and himself in Stratford-on-Avon mostly interesting from a Shakesperian point of view. Mr. Charles Male also exhibited a num-



TAKEN WITH GRIFFITHS' 5 × 4 DETECTIVE CAMERA.

ber of photographs, $8\frac{1}{2}$ by $6\frac{1}{2}$, taken by himself recently in Cornwall and elsewhere. The feature of the evening was the reading of a paper by Mr. J. B. Gibbs, entitled "Order and Art;" this paper, while not touching directly on photographic matters, was of a most educational character and was listened to throughout with the utmost attention and interest. Mr. B. J. Sayce called attention to curious markings he had to battle with while working the Eastman transparent films, and gave briefly an account of his experience with films of almost every sort since their first introduction. Other members having spoken on this and kindred matters the proceedings terminated.

Bournemouth.—The committee of the photographic section of the Society of Natural Science have arranged a photographic excursion to the New Forest (Queen's Bar, Brockenhurst), for the 22nd inst. Members of any other photographic society visiting Bournemouth at that time are cordially invited to join, and are requested to communicate, before that date if convenient, with the Hon. Secretary, Mr. W. Jones, 205, Old Christchurch Road.

Enfield.—The ordinary meeting was held on the 12th inst., eleven members being present. The subject for the evening was "A Discussion on Negatives," and about a hundred negatives were brought by various members for mutual criticism. A couple of hours were very profitably spent in comparing notes with reference to exposures given, developers used, etc. The President (Mr. D. G. Pinkney) brought with him the latest pattern of the Beck Newman time and instantaneous shutter, and said he had used it during a recent holiday, and that it gave great satisfaction, exposures of a fractional part of a second being made with absolute certainty and without any vibration.

Hackney.—The ordinary meeting was held on the 13th inst., Dr. Roland Smith, the President, in the chair. The Secretary announced, that the exhibition would be held in the Morley Hall (large hall), on October 21st and 22nd, and that there would be open classes trade exhibits, lantern shows, organ recitals, concerts, etc., and that Mr. Traill Taylor and another gentleman, possibly Mr. Pringle, would act as judges. Mr. Crouch had kindly offered a pair of stereoscopic lenses for competition. Mr. A. Barker and Mr. Harverson then

passed round work executed by them on their holidays. Mr. B. Foulkes Winks was nominated for membership. The Hon. Secretary apologised for the absence of Mr. Adams, who was to have dealt with hand-cameras from a manufacturer's point of view, owing to business matters. A good show of hand-cameras was, however, made by Mr. Roberts, who exhibited his, the changing being effected by the dropping of plates through a slot. It could be used on a stand and focussed as an ordinary camera—no sheaths. Messrs. Philip Harris and Co., of Birmingham, showed the "Cytos," a very neat and cheap camera; Dr. Roland Smith showed the one he had patented, which set the shutter and changed the plate with one movement; Messrs. Mercer, of Birmingham, sent the "Alert" (a rough model). This was a very nicely arranged and compact camera, very small, but taking quarter-plates, and on the magazine principle; Messrs. Harling sent the Cusworth "Repeater," which set the shutter and changed the plate with the one movement. The Hon. Secretary showed Adams' "Ideal," fitted with self-setting Newman shutter, regulatable from 1-100th sec. to a year, with Iris diaphragm. The President handed round a new hand-camera lens made by Mr. Crouch, having a focal length 5 inches, and working at $f/5$. It was made from the Abbé Schott glass, and gave splendid results. He showed his results of the work done with lens. The "Dresser" shutter was also shown, which could be made to give any exposure.

Holborn.—At the meeting on the 14th inst., Mr. Fred Brocas in the chair, Mr. E. Dunmore gave a very interesting lecture on "The Use of Spectacle Lenses," and showed some whole-plate prints, landscape and interior, taken with a pair of spectacles, which were quite as good as those taken with an ordinary lens. He also showed an arrangement of his own whereby the back of the camera is made to include a focussing cloth and dark-slides. In raising the shutter of the dark-slide the focussing screen is also raised. The dark-slides are about a quarter of an inch in thickness and very light. It will shortly be put on the market.

Lewes.—One of the most successful and enjoyable excursions held this season took place on the 13th inst., when East Grinstead was visited. The principal points of interest were the church and Sackville College. Although the afternoon turned out rather dull, a good number of plates were exposed. Through the liberality of Mr. C. E. Collins, an excellent tea was provided at the Crown Hotel, to which full justice was done.

Liverpool.—At the meeting of the Camera Club on the 12th inst. the members present heard an excellent paper read by Mr. Joseph Davies, entitled "A Few Notes on the chemical changes which take place during the production of a photographic negative and ordinary silver print." After several questions had been replied to, the thanks of the meeting were accorded the lecturer and carried with applause. The treasurer's half-yearly report was read, showing a balance in hand of £2 10s. 6d. with a paid membership of twenty-eight. The monthly programme and a smoking concert to be held in October were then arranged for, which brought a very enjoyable evening to a close. At the next meeting on the 9th September, a demonstration on "Platinotype Printing" will be given by Mr. H. Handley.

North Middlesex.—The last meeting was held on the 10th inst., Mr. H. Staveley in the chair. Mr. Gill showed some handy shutters

and an exceedingly cheap half-plate camera, made by Mr. Farrow of Hornsey Road. Messrs. Adams and Co. sent one of their "Lightning" tripods, a Gilmer lens adapter, a "Holiday" lamp, and a metal developing dish with cover, all of which were thoroughly examined and approved of. Mr. Stewart reported that he had tested Mr. Barry's printing meter, and believed that, carefully worked, it would prove useful in carbon and opal printing. The Chairman called upon Mr. Taylor for his demonstration on "Development" (one of a series for beginners). Mr. Taylor explained the action of the various constituents of the developer; the reducing agent, the restrainer, the accelerator, and the preservative, and having brought six plates, two fairly exposed, two under-exposed, and two over-exposed, proceeded to treat one of each with a normal developer, and then to develop the remaining under and over exposed plates with such modifications of the developer as to make the best of them. A discussion followed, and a vote of thanks was accorded to Mr. Taylor. The usual competition of prints taken at field days took place, Mr. Ainsley receiving the vote of merit for Kingsbury, and Mr. Walker for Beddington. The President reminded the members that the annual exhibition was approaching, and urged them to prepare work to exhibit, so that it might be representative of the Society. Mr. Stewart was elected Chairman for September 14th, when a demonstration on "Alpha Paper" will be given.

Richmond.—At the ordinary meeting held on the 14th inst., Mr. Faulkner in the chair, Mr. Cembrano, as delegate of the club at the late meeting of the Photographic Convention at Bath, read a concise but comprehensive report of the proceedings of the Convention, calling special attention to the recommendation made by the Lens Standard Committee with a view to securing uniformity in the matter of lenses, diaphragms, screws, and fittings of cameras, and winding up with expressions of warm appreciation of the kind reception which had been accorded to the Convention at Bath. The presentation of the report had been deferred for a fortnight to enable Mr. Cembrano to prepare his illustrations in the shape of lantern-slides, with the result that no less than 120 pictures were thrown upon the screen, the slides being for the most part the work of Mr. Cembrano himself, and the rest by Mr. H. M. Hastings. They covered the whole ground of the Convention's rambles—Bath, Clifton, Bristol, Tintern, Chepstow, Salisbury, Glastonbury, Wells—and comprised architecture and landscape, shipping, cattle and figure subjects, including in the last sundry unconventional groups of members of the Convention. The whole were of the highest interest, and Mr. Cembrano was warmly thanked by the meeting for his "illustrated report."

Wakefield.—On Saturday the 15th inst. the members of the above Society left Westgate Station at 12.48 for Nostell, and then spent an enjoyable afternoon at the Priory, the residence of Baron St. Oswald. The fine Italian gates leading from the stables were successfully photographed, also views on the lake. Photographs of the deer and the house were also taken. The members also took interior views of Wragby Church, which is in the grounds, there being a very fine carved pulpit and some curious stained-glass windows. The party arrived back at Wakefield about six o'clock. No doubt some of the views will be shown during the coming winter session at the Society's lantern evenings.

To Correspondents.

All communications for these columns are to be addressed to **The Editor, "Amateur Photographer," 1, Creed Lane, Ludgate Hill, London, E.C.**

RULES.

1. Write clearly and distinctly on one side of the paper only.
2. Write each Query or Answer on a separate sheet of paper.
3. Write the name and address legibly on the back of each communication, and sign all Queries and Answers with name or *nom de plume*.
4. All matters for these columns **MUST** be received by **TUESDAY MORNING'S POST**.
5. The Editor does not undertake to answer questions by post.
6. In answering Queries, correspondents are requested to mention, in every instance, the number and full title of the query referred to.

QUERIES.

4952. **Hire of Hand-Camera.**—Can any reader inform me where there is a photographic material dealers' in London who have a good and reliable hand-

camera which they lend on hire for any length of time, say from Saturday to Tuesday, or for a week or month?—**W. H. ELLIS.**

4953. **Light for Lantern Slide Making.**—What sort of light is best to use with Griffiths' lantern slide making camera? I shall reduce from whole-plate negatives, probably using Fry's plates. Is an ordinary paraffin lamp or magnesium ribbon best?—**CARBONATE.**

4954. **Enlarging Camera.**—I want to get some cheap and simple enlarging camera for bromide enlargements. Griffiths' fixed enlargement and Laucaster's Miltum-in-parvo camera would both suit me, I think. Can any reader tell me if these are good cameras, and which is the best? Can Griffiths' enlarging camera be also used for reducing lantern slides from whole-plate negatives, or must I get the lantern-slide camera as well?—**CARBONATE.**

4955. **Eastman's Bromide Paper.**—I cannot get out the distance without carrying the development so far as to lose all detail in the foreground. Hydroquinone developer. How is the grey tint obtained?—**H. W.**

4956. **Devonshire.**—Can any reader recommend a village or villages in north Devonshire where I can obtain good photographic studies of fisher folk, boats, etc.? Whether there is any boating or yachting to be had; and any other particulars of interest to photographers.—**SWANSEA.**

4957. **Density.**—I have some negatives which are too thin to print from (unfortunately they are varnished). How can I get the varnish off so as not to hurt the negative, and if so, how can I get the density? They were developed with Lockyer's hydroquinone. Would some one kindly assist me.—**DOVER.**

4958. **Density.**—Will any reader kindly tell me how it is I do not get sufficient density in my negatives

when using equal parts of the following formulae?

1.	Hydroquinone	..	..	..	40 gr.
	Sodium sulphite	..	..	..	120 "
	Pot. bromide	..	..	..	5 "
	Citric acid	..	..	..	5 "
	Water	..	..	..	10 oz.
2.	Potas. hydrate	..	..	..	80 gr.
	Water	..	..	..	10 oz.

—**REVILLO.**

4959. **Combined Hydroquinone and Eikonogen Developer.**—Is the formula given in "Home Portraiture," May 8th, suitable for landscapes? If any reader knows of a better for this purpose kindly give it.—**H. W.**

4960. **Aristotype Paper, How to Mount.**—Will some one give me a good way to mount aristotype prints without destroying the glossy appearance of same?—**KENDAL.**

4961. **Yellow Light and the Eyesight.**—I should be glad to have the opinion of some qualified person as to whether the yellow light of the dark-room has any injurious effect upon the eyesight.—**H. L.**

4962. **Exposure.**—Can any one give me a few hints on photographing the moon shining on the sea? What exposure should I give with a Thomas's extra rapid plate? I should also be very grateful for any hints on taking sunsets.—**W. B. K.**

4963. **Belgium and Holland.**—(1) Can I obtain 11ford plates in the different towns; if so, what towns, and at what price per dozen? (2) Is there any work published for the guidance, etc., of amateur photographers in these countries (Holland and Belgium); if so, where can it be had and at what price? The places I intend visiting are Antwerp, Brussels, Dinant,

Namur, Rotterdam, The Hague, Scheveningen, Amsterdam, and Hoon.—THOS. W. ATKINSON (address with Editor).

QUERIES UNANSWERED.

July 17.—Nos. 4863, 4865, 4866, 4868, 4871.
 31.—Nos. 4900, 4904, 4905, 4907, 4909, 4912.
 Aug. 7.—Nos. 4923, 4934.
 14.—Nos. 4917, 4950.

ANSWERS.

4918. **Filtered Rain Water.**—Filtered water will do perfectly well to make up toning baths. You need not trouble about boiling or distilling it unless the water is very impure. Ordinary tap water is quite good enough for most photographic operations.—CARBONATE.

4919. **Sensitised Paper.**—All papers work well with the acetate and borax baths. If they do not, they probably will not work with any bath, and are not worth having. Personally I have got better results with Scholzig's paper than with any, but you had better use whatever paper suits you best. I believe Fallowfield's is also a good paper. The following bath does well for nearly every paper:

Borax 60 gr.
 Gold 1 "
 Water, to about 10 oz.

Dissolve the borax in hot water and add the gold when cool; use at once. This bath will tone one sheet of paper.—CARBONATE.

4920. **Eastman Films.**—It is almost impossible to keep single films quite flat. The best way is to do three or four in the same dish, turning them over about every half-minute by their edges, as if they were prints toning. I believe the Eastman Company develop them like this.—CARBONATE.

4920. **Eastman Films.**—In reply to "Beta's" question, I have found this difficulty with whole-plate films, but have got over it by proceeding as follows:—Put the film in dish face upwards and pour the developer over it (it is well to have bottom of dish wet), then take up at once and place on developer face downwards, pressing down lightly to make the fluid cover it, raise each side in succession and replace in order to get rid of any air bubbles; keep the developer in motion. The progress of development can be watched by raising up a part of the film, and after development has proceeded some way, the whole film can be lifted and examined more carefully by the dark-room light.—C. E. F. (Munich).

4921. **Fixing Bath.**—The acid fixing bath is supposed to make the negatives clear and to prevent frilling. I do not believe it is much use with pyro-ammonia. The alum bath used before fixing will take away the yellow stain in pyro development and will also harden the film so that there is no fear of frilling in the fixing bath. A slight yellow stain is no disadvantage in printing; if anything, rather the opposite. But if you want your negatives absolutely clear, and alum does not remove the stain, you can use Edwards' clearing bath, as follows:

Sulphate of iron 3 oz.
 Alum 1 "
 Citric acid 1 "
 Water 20 "

But I generally find (with perhaps the exception of Edwards' Isochronate) that by using sulphate with the pyro and alum before fixing the negatives are quite clear. I should think that with hydroquinone the ordinary fixing bath would be all that is necessary.—CARBONATE.

4922. **Hypo Eliminating.**—In answer to "Gringo," it is usual to wash a negative in cold water after developing it for four hours; after this time has expired it is taken for granted that there is no hypo left. There is no way to know when a trace of hypo remains, except when the negative is dry; if there is a quantity of hypo on the film, this shows signs of improper washing. The same rule follows on the prints.—W. H. ELLIS.

4922. **Hypo Eliminating.**—No, it is not important that every trace should be removed from a negative, except perhaps before mercurial intensification. Washing a negative for four or five minutes, back and front, under a tap is quite enough to get the hypo out. A negative may be considered free from hypo when all marks of the hypo crystals have disappeared from the back. If, however, for any special purpose you want to know if the negative is perfectly free from hypo you can use the following test, which is given, I think, in the *Photographic Times*:—"Dissolve 2 gr. of potassium permanganate and 20 gr. potassium carbonate in one quart of distilled water. This solution is of a fine pink colour. Take the water in which the negatives or prints have been soaking for ten minutes or more, and pour it into a clean glass bottle which will hold one pint. To this add five to ten drops of the pink (permanganate) solution. If the water be pure, it will assume a pale pink tinge, but if any hypo be present the colour will change to a light shade of green. The bottle should be shaken well and allowed to stand for ten minutes." Do not use any so-called hypo eliminators; they do more harm than good.—CARBONATE.

4927. **Custom House Regulations in Germany.**—I should not think they would be very strict about the camera and the unmistakably photographic parts

of the outfit. You might have some difficulty in getting any solutions through, as they might think they were spirits. You can get the following label—"This packet contains photographic plates; if exposed to light they would be completely ruined"—or something like it, printed in every language, from most dealers.—CARBONATE.

4929. **Toning Baths.**—In reply to D. G. Harris' query, the toning bath which I recommended to "J. W. W." on July 31st, 1891, will keep any length of time; that is to say any reasonable length of time. I do not think it would be good enough to use after keeping it for five months, but I have kept some for four months and a half and have prints toned quite as good, if not better, than when the bath was only one week old. I should advise the toning bath to be cold in the summer, but in the winter it would be better to have it warm. Some toning baths are better if used warm all the year round, but this bath I do not think will suit. 8 oz. of water to 1 oz. of the stock solution will tone six prints (half-plate) in a half-plate dish, but I generally tone my prints in a 10 by 8 dish, when I use 16 oz. of water to 2 oz. of the stock solution. This lot will tone twenty-four half-plate prints if done either in three lots of eight each lot or four lots of six each lot. I should have been pleased to have written to you direct, but as I did not know your address I was unable to do so. I shall be glad to answer any further queries either direct to you or through the columns of this paper upon receiving your query and address.—W. H. ELLIS.

4933. **Toning Solution.**—Look to my reply to Query No. 4929 on the same subject in this week's issue.—W. H. ELLIS.

4935. **Developer.**—The best developer for Thomas's plates is the one you are most accustomed to. It is no good, if you generally use pyro and read that "these plates work especially well with hydroquinone," on that account to leave off pyro, which you are familiar with, and take to hydroquinone that you know nothing about, or vice versa. Thomas's work equally well with both. I myself have found them do very well with pyro (which I always use for everything), and I have read that hydroquinone suits them also. If you use pyro, you would do well to make up their pyro-ammonia formulae, which are 10 per cent. solutions, so that you can make up any formula by finding out how many grains or minims of each chemical is contained in an ounce of developer. Ten drops of each solution is equivalent to 1 gr. of the chemical it contains.—CARBONATE.

4936. **Washers.**—Wood's washer answers very well both for prints and negatives, and is not very expensive.—CAILLOU.

4936. **Washers.**—Wood's for prints and negatives; Godstone's for prints only. It is better, but not imperative, to use a separate one for prints and for negatives.—PEN.

4936. **Washers.**—If you want something cheap, Tylar's Aqua-poise, costing 4s. 6d. half-plate size, is quite efficient. I think that for washing prints Burton's process, using cold and warm water alternately in two dishes, is better than any automatic washer.—CARBONATE.

4937. **Windermere, etc.**—Windermere, Ambleside (Salutation Hotel), Ullswater, and Patterdale, over "Sticks" Pass to Wythburn and Keswick (the "Keswick" or "Derwentwater" at Portinscale), Buttermere, via Borrowdale, over Black Sail Pass to Wasdale Head (inn), over Stylo Head and Rossett Ghyll Passes to Langdale (Dungeon Ghyll Hotel), and back to Ambleside. See Grasmere, etc., from here, and if possible, "Tarn Hows," "Stanley G.I." in Eskdale, and either steam the length of, or go round, Windermere. I am supposing you to be good walkers. The route from Wasdale to Langdale is very "stiff," but the views on the way are magnificent. It requires care, and should only be attempted in fine weather.—PEN.

4938. **Exposure for Enlarging.**—I have found that three times the exposure given by Decoudun's photometer is about correct for daylight enlarging on Eastman's paper. It is preferable to take a medium exposure between the high lights and deepest shade by adding them together and dividing by two for ordinary work, but the points chosen for the calculation naturally depend on the subject. Any other photometer would probably answer, but the exposure must be found out by experiment and with practice. W. L. P. would be able to dispense with artificial aids.—J. G. F. VEREKER.

4938. **Enlarging, Exposure for.**—It is almost impossible to say what the correct exposure would be, as so much depends upon the colour as well as the density of the negative, and the strength of light and reflectors used. The best way is to expose a piece of bromide paper in parts, i.e., cover up all the paper except a strip an inch wide, with a piece of cardboard. Give this, say, 5 sec. exposure, and then move the cardboard along an inch and hold it for another 5 sec., and so on for about eight exposures. The last piece will have had 5 sec. exposure and the first piece 40 sec., and on the development the correct exposure can be chosen. But probably for enlarging quarter-plate to whole-plate the exposure would have to be longer than this, unless the light were very strong.—CAILLOU.

4939. **Exposure.**—The exposure all depends on the strength of the light. For diffused light, four or five seconds would be about right. When copying, see that

the camera is parallel to the photograph, and avoid light coming from the side. I should use $f/22$ or a smaller stop.—CARBONATE.

4939. **Exposure.**—Copy in bright diffused light. Your lens is not at all suitable; much better use a R.R. Exposure varies as square of distance. Try 30 sec. first, stop about $f/11$. By the bye, will your camera rack out to 20 in.? It will have to do, using your present lens.—PEN.

4939. **Exposure.**—You do not give rapidity of plate used, so can hardly advise as to exposure. See answer to 4938. Be careful not to have any reflections from the surface of the print, and if possible mount it in optical contact on glass, as that gives a brilliant surface and prevents the granularity of the paper from showing in the reproduction.—CAILLOU.

4939. **Exposure.**—I generally copy photographs out of doors, and give 3 to 5 sec. exposure, with about $f/32$. Unburnished photographs are the best to copy; if burnished you will have to move the picture from one place to another till you find a good position for it.—PEN.

4940. **Mountant.**—Why not buy a bottle of Marion's mounting solution? It is easy to use, sticks well, and keeps well.—CAILLOU.

4940. **Mountant.**—I have been using Fallowfield's mountant, which he sells in 6d. and 1s. bottles, for a long time. It is a good adhesive, and will keep good any length of time. I should try some if I were you.—PEN.

4940. **Mountant.**—Soak 1 oz. Nelson's No. 1 gelatine in 10 oz. water till soft, then raise the temperature by a water bath till melted, add $\frac{1}{2}$ oz. glycerine and 5 oz. methylated spirit, stirring all the time. When cold, the mountant will be a firm jelly, which can be melted by standing the bottle containing it in hot water before using. This is an excellent mountant, clean, and a very good keeper.—PEN.

4940. **Mountant.**—The following is a very good mountant, keeping good for about six months:

Gelatine 4 oz.
 Water 16 "
 Glycerine 1 "
 Methylated spirits 5 "

Swell and dissolve the gelatine in the water, then add the glycerine, and lastly the spirits. Upon adding the glycerine it will go into a thick lump; this, however, will dissolve on stirring.—CARBONATE.

4940. **Mountant.**—I think if "Mountant" was to make up the following solution he would have all he could wish for, viz.:

Wilson's No. 1 gelatine 4 oz.
 Water 16 "
 Glycerine 1 "
 Methylated spirits 5 "

Put the gelatine in some water until it is soft, then dissolve it by warming the liquid, then add the glycerine, and lastly the methylated spirits. Do not forget to use this solution rather warm and also to stir the solution well before putting each addition in. If each addition be measured correctly before mixing them with each other, you will find it will keep quite as long as it will take you to use it all. If the additions are not correctly measured it will soon go bad, as it will if you do not keep in a well-stoppered bottle or a cork bottle of some description. It may be used directly it is made.—W. H. ELLIS.

4941. **Borax Toning Solution.**—"Carlos" will find the borax toning bath may be used several times, remembering at the same time that each time before you start to tone you must add a little gold (1 dr.). It is often said an old borax bath will give better results than a new one.—W. H. ELLIS.

4941. **Borax Toning Solution.**—This will not keep for toning with. But I find that when mixing a fresh bath, if some old solution be added instead of water, you can use less fresh gold, and toning proceeds more rapidly. Say, dissolve the borax in 5 oz. water, and make up to the required bulk with old bath solution:

Chloride of gold 15 gr.
 Sodium acetate 1 oz.
 Filtered rain (or distilled) water .. 15 "

—PEN.

4941. **Borax Toning Solution.**—No, Borax alone will keep any length of time in solution, but soon goes bad when gold is added. I think a freshly made up bath always does better than an old one as in the old one the gold often gets deposited. If, however, you want a bath that will keep, make up the following:

Acetate of soda 30 gr.
 Gold chloride 1 "
 Water 10 oz.

Make up a week before using and keep in the dark, else the gold will become deposited. Add more gold when the bath becomes exhausted.—CARBONATE.

4941. **Borax Toning Solution.**—I believe you can use the borax bath over and over again by adding gold every now and then. I do not use that bath myself. The one I use and recommend is—

Gold chloride 1 gr.
 Soda bi-carbonate 10 "
 Water 10 oz.

This is ready for use almost directly after mixing, and can be used several times. A good acetate bath is—

Gold chloride 1 gr.
 Soda acetate 20 gr.
 Water 8 oz.

This must not be used for twenty-four hours after mixing.—PEN.

4943. **Mounting.**—Add a little methylated spirit.—PEN.

4943. **Mounting.**—Make up the mountant given in answer to question 4940. It will keep for six months.—CARBONATE.

4943. **Mounting.**—Gelatin very easily decomposes after having been dissolved and warmed, and then loses its property of setting into a firm jelly. It would be best to mix up the solution fresh each time, and only to make sufficient for the prints that have to be mounted.—CAILLOU.

4944. **Pyro Developer.**—The proportion of pyro to sulphite should be as 1 to 4. I mix mine thus, and it works well:—

Sulphite of soda (pure recryst.) .. 2 oz.
Citric acid .. quant. suff., say 30 gr.
Hot water .. 5 oz.

When the above are dissolved, add pyro, $\frac{1}{2}$ oz. The solution should be nearly colourless, and is of 10 per cent. strength.—PEN.

4944. **Pyro Developer.**—If you use sulphite and citric acid as preservatives, nothing will go wrong unless your chemicals are impure. Make up your developer as follows:—Dissolve 4 oz. sulphite of soda and 1 drim. citric acid in 19 oz. hot water, let it cool and pour into an ounce bottle of pyro. The pyro will dissolve instantly, then pour the whole solution back into the stock bottle. The bottle will then contain a 10 per cent. solution of pyro. Any formula can be made up in a similar manner, dissolving the sulphite first in the proportion of 4 to 1 of pyro.—CARBONATE.

4944. **Pyro Developer.**—The following formula is the correct one:—

P.		
Pyrogallie acid ..	1 oz.	
Citric acid ..	60 gr.	
Soda sulphite (pure) ..	2½ oz.	
Dist. water, to make ..	20 "	
A.		
Liq. ammon. '580 ..	1 oz.	
Amm. bromide ..	80 gr.	
Dist. water to make ..	20 oz.	

Developers must be mixed in the order I have given.—PEPO.

4945. **Shutter.**—The Thornton-Pickard Time shutter, which can easily be adapted to your camera front, behind the lens.—PEN.

4945. **Shutter.**—This question has been answered six times in the last four weeks. Please refer to AMATEUR PHOTOGRAPHER of last week (August 7th), question 4915, which is almost exactly the same as your question. The Thornton-Pickard time and instantaneous is the best you can have.—CARBONATE.

4946. **Celerotype, Mountant for.**—See answer to No. 4940 this week. If you enamel your prints, apply to the back, and fix mount in position before stripping.—PEN.

4946. **Celerotype, Mountant for.**—"Ring" might try a solution of india-rubber in benzole, or he could buy it ready prepared. I have also found the ordinary mouth glue, to be got at stationer's, useful, but in that case it ought to be dipped in hot water and run along the edge of the print for about the eighth of an inch; the print will adhere immediately to the mount.—J. G. P. VEREKER.

4946. **Mountant for Celerotype.**—Dextrine and gelatine are about the best mountants for gelatin-chloride papers (see my answers to 4940 and 4943). The dextrine paste described in answer to 4945 can be made to keep by replacing one-eighth of the water by methylated spirits. A thin starch paste will do well enough, but it should be made up fresh every time.—CARBONATE.

4948. **Burnishing Prints.**—Having rubbed your glass over with French chalk, place the print on it face downwards, and squeeze it, so as to get perfect contact with the glass, then rub the back of the print with your mountant, and apply the card; this is a very easy way of mounting.—PEPO.

4948. **Burnishing Prints.**—It is almost impossible to mount burnished prints, so as not to affect the surface. The best way is to use very little mountant just round the edge of the print, or else to slip the corners into slits cut in the paper mounts. I think the surface of Aristotype will be affected in this way.—CAILLOU.

4948. **Burnishing Prints.**—I have never found this happen when the prints are squeezed down on enamelled iron plates and mounted with gelatine. The prints ought to be mounted dry if you want them to retain their gloss. Dextrine is the best mountant for aristotype and other gelatin-chloride papers with glazed surfaces. Add the dextrine to water, stirring well all the time, until the paste is about the consistency of thick cream, and let it settle down into a feeble sort of jelly. If not thick enough, add more dextrine. Let the prints remain squeezed down until perfectly dry, then give them a thin coating of dextrine.—CARBONATE.

4948. **Burnishing Prints.**—In reply to "Sardonyx," the "squeeze" process of burnishing prints is as a matter of fact only intended to be performed on those prints which have been toned, trimmed, etc., and which are not intended to be mounted on mounts, but placed in a photographic album. These albums may be purchased at any photographic material dealer's. If you wish to mount all your prints, the best way to burnish them is to use a burnisher, but do not buy cheap mounts, as when you have burnished your print which has been

mounted on these cheap mounts, you will find the mount and print are marked all over by the burnisher.—W. H. ELLIS.

4949. **Rapidity of Plates.**—The only really reliable way of testing this is by exposure in the camera. Warnerke's sensimeter numbers cannot really be relied on. In case they may be of any assistance to you, I give the sens. No. and the approximate rapidity of each plate:—

Plate.	Sens. No.	Rapidity.
Ilford (ordinary) ..	18	1
Ilford (extra special) ..	24	2
Paget 50 times ..	24	3
Thomas's E.R. ..	25	3
Mawson ..	25	3

I should say that the extra rapid Ilfords, Paget 50 times, Thomas's E.R., and Mawson plates are all about equally rapid and from two to three times as fast as the ordinary Ilford. I have always done my instantaneous work with Thomas's and the Paget xxxxx., and sometimes, on a bright day even with the Ilford ordinary. Any of these plates are quite fast enough for work on any day fit for instantaneous photography. Thomas's and Paget's are quite easy to work with the Paget pyro-ammonia formula.—CARBONATE.

4951. **Bolton Woods.**—Proceed to the Devonshire Arms, Bolton Abbey, via Leeds and Skipton.—PEN.

EDITORIAL.

SPECIAL NOTICE.—We are very pleased to find that replies in this column are so much appreciated, but we should be very grateful if those requiring advice would send their letters to us before TUESDAY MORNING'S post if possible. The time occupied in replying in this column is very considerable, and owing to the often late receipt of letters, many matters have to be left over each week. This we much regret.—ED: AM: PHOT:

W. F. G.—Mix a little indian ink, carmine lake, and sepia together with gum water till you can match as nearly as possible the colour of negative, then use a fine spotting brush and cover the scratches with little dots of colour.

S. W. OLDERSHAW.—Thanks for your letter, which we have handed to Mr. Wall, who will write you. We will consider your other suggestions.

CARBONATE.—You must enter for the quarterly examination and then answer what questions you like. Some of the questions are by no means difficult and can be answered by a novice; others, we must confess, are teasers. There is a good deal of practical work which should be useful to you. (1) Never use sunlight for portraiture; the shadow side of the face is far too dark. Have you been printing in the sun? (2) Good, but would be improved by a little more contrast. (3) See note to 1. (4) Good. (5) Poor. Is the second figure on right in light coat Mr. H. M. Stanley, the African explorer?

J. THOMAS.—Make your gold solution up to 15 drim. and keep in the dark, as chloride of gold in the presence of actinic light and organic matter deposits gold. Lancaster's Instanto has a reversing back and may be used for copying, provided the focus of lens is not too long, as there must be just double the focus between lens and screen.

SANDOWN.—Your toning bath was too strong for matt paper. It should never be more than 1 gr. to the pint. The finest tones are obtained by deep printing and using a combined gold and uranium bath:—

Chloride of gold ..	1 gr.
Uranium nitrate ..	1 "
Salt ..	15 "
Acetate of soda ..	15 "
Water ..	1 pint.

Neutralise the gold and uranium with soda, add the other ingredients, and tone. Fix in:—

Hypo ..	2 oz.
Salt ..	1 "
Bicarbonate of soda ..	1 "
Water ..	1 pint.

ALPHA-DERRY.—(1) We believe the mounts can still be had from H. Seuer, 88, Norwood Road, London, S.E. (3) Fallowfield's Facile luggage carrier, price 3s. 6d., we have used with satisfaction.

NOTES.—Are not the Bath waters famous for their chalybeate properties? If so, we think this is quite sufficient to account for all your trouble. It is either iron or pyro which has caused the stain.

PYRO.—(1) Most of the difficulties are in the albumenising; probably, if you persevere, you will find that each sheet will cost you about double what you can buy it for. (2) The preservative is best applied to the surface of the paper when sensitised and surface dry. It is not advisable to mix the preservative and silver bath. You will have to keep your silver bath up to strength. The preservative may be applied on a pad or by floating the back of the paper on a bath of preservative. Always pleased to help you now or at any time.

CHWALEW.—Yours is rather a comprehensive want, and we can only suggest your advertising in our "Exchange" column for the same, or else writing to the various advertisers for specimens.

RUSTIC.—You do not state whether you want to use your camera as a hand-camera or on the stand, nor whether you want to use the lens at full aperture. You could hardly do better than use the lens you name

unless you choose Zeiss' new apochromatic triplet. Colour-sensitive plates would certainly give you better rendering of colours, especially for flower studies. We shall be pleased to help you further if necessary.

W. INGLES ROGERS.—The portrait is pleasing in pose, but we think better results could be got from the negative than the print you send, which is a little bit flat. Was it developed with hydroquinone?

UNCERTAIN.—A very fair article for the money.

ERNEST BENESE, PERCY E. MARSHALL, CHARLES W. TOWNSEND, W. B. ROBERTS, T. F. HOBAN, J. TMS, C. SMALLBRIDGE, H. LEACH.—Applications received shall be attended to in due course.

COLONIAL.—Dr. Kibbler's "Form of Double Toning with Gold and Lead" will be found in the AMATEUR PHOTOGRAPHER for November 15th, 1889, on page 318. R. WARDMAN.—Only those which can be viewed through an ordinary stereoscope.

HIBERNICUS.—The longer the focus of the lens for a given sized plate the less the angle included; the 5½ R.R. would include 42 deg. on a quarter-plate, the 9½ in. would include 25 deg., the 10½ in. 23 deg. Therefore the size of objects will be larger the longer the focus, therefore the single combinations should be used for long distance views and portraits.

E. B. WAIN.—We do not think any English maker has put a rough sensitised paper on the market, though there are several in Germany, nor can you get resinated paper. Fresh white lac ought to be obtainable from any photographic chemist. Write to Powell, 116, Denmark Hill, S.E.

H. MARSDEN.—There is not much doubt about the fog on your print, which is probably caused as you suggest. It might have been improved by a little longer development, we think. "Vic" is very good; it needs no improvement.

RELLAW.—The Miltum in Parvo can be relied upon, and the detective camera has given good results in our hands.

W. de H. BIRCH.—The error has been noted. Many thanks.

W. H. ELLIS.—Copy must reach us on Tuesday morning to ensure insertion. Syllabus shall be sent you in due course.

CESTRIA.—Send up the camera and we will examine it.

A. H. WILLIAMS.—Mr. Jonathan Fallowfield does not advertise in the AMATEUR PHOTOGRAPHER. His address is 146, Charing Cross Road, W.C.

REV. G. S. SHARLAND.—We are glad you found the owner of the dark-room at Margate so courteous and attentive to your requirements. The photographs you send us make clever little pictures, and will be added to our collection; with such a cheap shutter the result is wonderful.

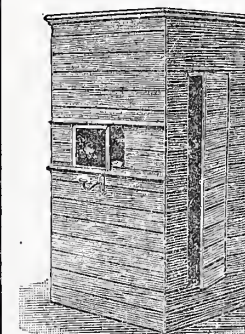
A. J. LEESON.—Letter noted; your photograph, "A Good Load," will be reproduced and form the frontispiece to the September number of the *Photographic Reporter*.

Geo. F. OLIVER.—Send us some of your photographs; we are likely to have a Monthly Competition for photographs of general interest.

T. W. ATKINSON.—We insert again as a query; sorry we cannot help you ourselves.

NOTE.—We have received four portraits and a view of the Houses of Parliament but no letter. Will the sender of the same kindly advise us with regard to prints?

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CARRIAGE must be paid on all apparatus sent for report, and they will be returned carriage forward.

ADVERTISEMENTS can be inserted under a number, the name and address being registered, and letters forwarded for a fee of 3d. to cover postage.

ADDRESS.—All advertisements (which can be received up to Wednesday morning, 9.0 a.m.) and other communications having reference to the "Sale and Exchange" column, must be addressed "Sale and Exchange, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C."

PAYMENTS should be made in Postal Orders or Postage Stamps.

Cameras, Lenses, etc.—Half-plate camera, leather box, three double dark-slides, mid-angle rectilinear lens, comp. etc, cost £11, will take £5; also splendid portrait camera and burnisher.—Allport, Uttroter.

Lancaster's quarter International camera, lens, shutter, side, and stand, splendid condition; what offers? approval; deposit.—Thomas, 1, Grugos Terrace, Port Talbot.

Quarter-plate Multiplex camera (by Hare and Dale), fitted with 5 by 4 Optimus R.R. lens, suitable for lantern work, etc.; 3 guineas.—King, 36, Lucerne Road, London, N.

Lancaster's Le Merveilleux, complete, case extra, new, 20s.; wide-angle lens, whole-plate, 20s.—Camera, Heyside, Royton, Lancs.

Ross's R.S. lens, 8 by 5, 70s.; whole-plate camera, long-focus, three backs.—X. Y., 191, Brighton Road, Croydon.

Half-plate wide-angle extension camera, three double backs, turntable head, 3-fold stand, and R.R. lens, London make, new this season; cost £9 10s.; price £6 10s.—Eaton, 40, Geldington Street, N.W.

Changing Back.—Rouch's 7½ by 5 changing back, holding 12 plates; £1.—Marshall, Cloisters, Windsor.

Dark Slides, etc.—Three Tylar's half-plate metal slides and focussing screen, quite light-tight; 8s.—Dawson, 10, Railway Terrace, Grantham.

One wooden and three metal dark-slides, with focussing screen for quarter-plate International; 8s. 6d.—Summers, 148, Stanstead Road, Forest Hill.

Hand Cameras, etc.—Adams' hand-camera, with additional reservoir, equal new; cost £12 10s. net; lowest price £9, cash, nothing less accepted; no approval; seen by written appointment.—L., care of Housekeeper, 22, Great St. Helens, London.

Shew's Eclipse hand-camera, in case, two finders, two backs, 5 by 4 lens; cost £7; price £4; letter.—Walker, 60, Norcott Road, Stoke Newington.

Talmer hand-camera, made specially to order; special features are: Taylor, Taylor, and Hobson's R.R. lens, iris diaphragms, also focussing scale, quite new and perfect, satisfactory reasons for selling; cost £6 3s.; price £5 5s.—W., 91, Turton Street, Bolton.

Automatic half Box camera, with all latest arrangements, hand or stand, stereo, rack and pinion, focussing screen, shutters, Dallmeyer's landscape lens; price £9; only wants seeing; after 6.—Gill, 5, Hornsey Rise.

Lancaster's Omnigraph hand-camera, best leather-covered, as new; 20s.—F. Noakes, Peterborough.

Griffiths' magazine hand-camera, time and instantaneous shutter, five additional stops, very fair condition; 15s., or offers.—Cycle, 4, Heatherside Road, Ewell, Surrey.

Hand-camera, Abrahams' Ideal, splendid condition, with carrying case; what offers? specimen print sent.—Hunt, 5, Queen's Crescent, Glasgow West.

Lancaster's new hand-camera, with changing box and light stand; 28s.; perfect condition.—Apply, No. 190, AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.

The Rover quarter-plate hand-camera (Lancaster and Sons), fitted with rapid rectilinear lens, iris diaphragm, leather case; Rover is quite new, just as received from the makers; price £3 10s.—J. E. Thornburn, Low Moor, Aspatia.

Adams' Ideal hand-camera, latest pattern, new and perfect condition; cost £7; will take £4 10s.—W. P., 1, Crawshaw Road, North Brixton, London.

Perken, Son, and Rayment's 6-guinea hand-camera, fitted with rectilinear lens, and perfect in every respect, in exchange for good tricycle, or will sell for cash.—Birkbeck, Bailgate, Lincoln.

Talmer hand-camera, absolutely new and perfect; cost £3 10s.; will sell £2 10s.; or what offers in exchange?—William Hare, Photographer, Sutton, Surrey.

Lantern.—Optical lantern, 4¼ in. double condenser, £1 1s.; also whole-plate landscape lens, 8s.—Williams, 35, Berger Road, Hackney.

Lenses, etc.—7 by 5 rectilinear, splendid lens, 20s.; half-plate view lens, 7s. 6d.; half-plate tripod, 7s. 6d.—M. Newhouse, 90, Victoria Terrace, Lancaster.

London Stereoscopic Co.'s 10 by 8 R.R., quite new, £5; Decoudun's photometer, 8s.; or both 5 guineas; or part exchange for 4 in. Thornton time shutter and Watkins' meter.—Snead, 34, Buckingham Road, Brighton.

Half-plate R.R. lens, new (Mallet), gives splendid definition, 26s., with Waterhouse stops in case; or exchange for good landscape lens; letters.—S. A., 6, Foxley Road, North Brixton.

Abrahams' quarter-plate rectilinear lens, works at f/6; 30s.—H. H. Cobb, Wealdstone, R.S.O., Middlesex.

Whole-plate R.R. lens, 32s. 6d.; Underwood's Russia leather hand-camera, for 11 quarter-plates, 24s.—John Slade, Slad Road, Stroud.

Lancaster's half-plate lens and shutter, new last

summer; 15s.—T. D., 136, Strand Road, Bootle, Liverpool.

Negatives.—Fifty instantaneous quarter-plate negatives, London views, suitable for making lantern slides, 1s. each; specimen and list, post free, 1s. 3d.—J. Stabb, 139, Queen's Road, Bay swater.

Invaluable to amateurs! Six assorted negatives, by deceased professional of many years' practical experience; 1s. 3d.—Richford, Wells, Norfolk.

Seis.—Whole-plate double extension camera, all movements, three double slides, leather-bound case, ash tripod, etc., £5 10s.; or, with Wray's R.R. lens and Thornton-Pickard shutter, £9 10s.—G. Constable, Market Street, Lewes.

Whole-plate Optimus wide-angle or long-focus camera, one double slide, new, price £5 15s.; 9 by 7 Swift's rapid Paragon lens, iris, new, £5 12s. 6d.; automatic shutter, price 12s. 6d.—6, Montford Place, Kennington Green.

Quarter-plate set, Underwood's Compactum, only 13s. 6d.—53, Slad Road, Stroud, Glos.

Sundries.—Bargain, splendid brass model horizontal slide-valve engine, 1 in. bore, 2 in. stroke, on polished brass plate, also strong copper boiler, with tube, fire box, chimney, complete with safety valve, taps, whistle, both guaranteed in thorough working order; 70s.; or exchange Ross' or Wray's half W.A. lens, or offers; approval; deposit.—Smith, High Street, Morley.

Studio for sale, house to let, suit amateur.—Lux, 139, Herbert Road, Smallheath, Birmingham.

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WANTED.

Cameras, etc.—Camera, size quarter-plate or visit, Lancaster's International, or other; write details.—Haggard, 3, Castle Hill Avenue, Folkestone.

Cameras, Lenses, etc.—Half-plate camera, complete, R.R. lens, and tripod, only first-class goods accepted; exchange Singers Traveller tricycle, cost over £20 net, never run 100 miles, or sell latter £8; goods to be deposited with Editor.—Percy Sheard, Batley, Yorkshire.

Lenses, etc.—Ross' 7 in. focus portable symmetrical, in exchange for Dallmeyer's 6 in. focus rapid rectilinear, nearly new; state terms and condition.—T. Rodway, General Post Office, Manchester. Left till called for.

Dallmeyer's 5 by 4 wide-angle landscape lens, 5½ in. focus; state lowest price and condition.—T. Rodway, General Post Office, Manchester. Left till called for.

Cabinet portrait lens, by good maker, must be perfect.—Lowest price to Moxon, Photographer, Hay, R.S.O.

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NEGATIVE EXCHANGE.—O. Appleton, 36, Priestgate, Darlington, would like to exchange a few quarter-plate negatives (views and portraits) for other quarter-plate negatives, views preferred.

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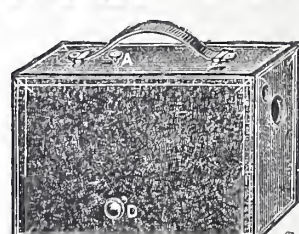
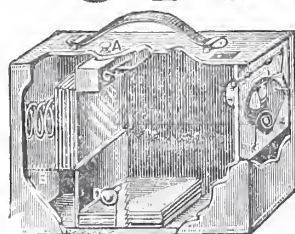
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The AMATEUR PHOTOGRAPHER

Telephone N^o 1645 Telegraphic Address: VINEY, LONDON

Office: 1, Creed Lane, Ludgate Hill, London, E.C.

No. 360. VOL. XIV.]

FRIDAY, AUGUST 28, 1891.

[PRICE TWOPENCE.]

OUR VIEWS.

"To hold as 'twere the mirror up to nature."—Shakespeare.

The Monday afternoon "At Home" is discontinued for the present, but will be resumed on Monday, the 7th of September.

OUR VIEWS.—Glasgow Photographic Exhibition—"Holidays with the Camera"—Second Annual Ladies' Photographic Competition—Monthly Lantern Slide Competition—Programme for AMATEUR PHOTOGRAPHER'S "Monday Evenings"—Exhibition of the Photographic Society of Great Britain—Annual Lantern Slide Competition—The October *Photographic Quarterly*—The *Daily Graphic* on Present Day Photography—Geological Photographs at the British Association—The Preston Camera Club—Falmouth Exhibition, List of Awards—The AMATEUR PHOTOGRAPHER 1891 Prize Lantern Slides to be shown at the Pall Mall Exhibition—Arrival of Major Nott at the Cape.

LEADER.—Washing Negatives and Prints.

ILLUSTRATION.—"A Classic Face," by S. de Lara Cohen.

LETTERS.—Dark-rooms in Barracks (Agricola)—Help a Poor Professional! A Deserving Case (Harry Alcock)—Wanted, a Shutter (J. Morson)—Pall Mall Exhibition (H. A. Lawrence)—Exhibition Rules (W. Goodwin).

ARTICLES.—Pointers about Bromide Paper—Composition and Light and Shade (Robinson), illus.—Freehand Drawing and Photography (Vereker), illus.

BRITISH ASSOCIATION.—A Physical Method for Colour Photography (Professor Oliver J. Lodge).

HOLIDAY RESORTS.—North Devon and Somerset as a field for photography, by John A. Hodges, illustrated—"The Old Mill," W. Porlock.

DARK-ROOM LIST.

LADIES' SECOND PHOTOGRAPHIC COMPETITION, List of Competitors.

SOCIETIES' MEETINGS.—East London—Faversham—Lewisham—Spenn Valley—Sydenham.

EDITORIAL DEPARTMENT.—All Literary Contributions, Queries and Answers, Photographs for Competition or Criticism, Books or apparatus for Notice or Review are to be addressed to the EDITOR, AMATEUR PHOTOGRAPHER, 1, CREED LANE, LUDGATE HILL, LONDON, E.C. (All Communications should reach the Editor on Tuesday.)

TRADE ADVERTISEMENTS are received up to Tuesday morning.

TERMS OF SUBSCRIPTION.

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PUBLISHING DEPARTMENT.—All letters containing Subscriptions, Orders, Remittances, SALE AND EXCHANGE Advertisements, or other business matters for the AMATEUR PHOTOGRAPHER are to be addressed to the Publishers, HAZELL, WATSON, AND VINEY, LD., 1, CREED LANE, LUDGATE HILL, LONDON, E.C. (SALE AND EXCHANGE Advertisements, at the charge of Three Words for One Penny, can be received as late as WEDNESDAY MORNING.)

"Amateur Photographer" Monthly Lantern Slide Competition (Fifth).—"LANDSCAPE, SEASCAPE, AND RIVER SCENERY." Last day, SEPTEMBER 24TH. Two Slides to be sent in. Entry Forms, etc., on receipt of stamped envelope addressed to Editor, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C.

"Amateur Photographer" 1891 Lantern Slide Competition (Fourth Year).—Prizes: Gold, Silver, and Bronze Medals, and Certificates in each class. Competitors to enter only one class; every competitor to contribute ten slides, and a "lantern slide portrait" of him or her self.

CLASS I.—Landscape, Sea Pieces, and River Scenery, with or without figures.
CLASS II.—Portraiture and Figure Studies, to include in-door or out-door pictures.
CLASS III.—Architecture, Interior or Exterior.

CLASS IV.—The Fine Arts, which may include copies of Pictures, Engravings, Sculpture, Art Metal Work, China, Brica-brac, etc.

NOTE.—Every Competitor must send descriptive Notes.

Past prize-winners will be awarded "Niepe" or progressive medals, should they win a medal of the same value as that which they have been awarded in past Lantern Slide Competitions.

All slides must be received on or before the 30th September, 1891.

RULES, CONDITIONS, AND ENTRY FORMS will be forwarded on receipt of stamped addressed envelope. The application should be endorsed, "LANTERN SLIDE COMPETITION," Editor, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C.

THE Glasgow Photographic Exhibition will be opened by the Lord Provost on Tuesday next, September 1st. A brilliant company is expected to be present at the conversazione. From all hands we hear that the collection of photographs, photographic apparatus, and specimens of photo-mechanical work are worthy of an exhibition promoted by such earnest workers as the executive and members of the Glasgow and West of England Amateur Photographic Association. There is sure to be a large attendance. Next week we shall have more to say on the subject.

OUR readers will be glad to know that at last "Holidays with the Camera" is published. It contains twenty descriptive articles on holidays, illustrated with over forty reproductions from the authors' photographs. The districts described range from the Home Counties, by Mr. W. H. Whittard, to Hyderabad, by Surgeon A. G. E. Newland. The Appendix is a new feature in the AMATEUR PHOTOGRAPHER "extras;" in it every photograph contributed to the competition is named and a short criticism appended. The get up and size have been remodelled, and we venture to hope that it will be found more handy to handle; future "extras" will be in this book form.

WE note that in all some thirty ladies entered our "Second Annual Ladies' Photographic Competition." We shall hope to get the prizes award by the middle of next month. A selection from the prize photographs will be reproduced in the *Lady's Pictorial*. We shall hope to have the photographs on exhibition at Creed Lane a little later in the year.

NEXT week we shall advertise the Monthly Lantern Slide Competitions. The subjects will be: September 24th, "Landscape, Seascape, and River Scenery;" October 22nd, "Portraiture and Figure Studies;" November 19th, "Architecture" (interior and exterior); December 17th, "Figure Studies and Humorous Pictures." These slides will be shown at our "Monday Evenings," and will, we are sure, form an attraction in themselves.

With regard to the programme for the "Monday Evenings," at present we cannot publish a syllabus, but the subjects for demonstration will be as varied as possible; they will, of course, be announced in due course. We hope subscribers will apply for tickets as early as possible; these will admit the holder and friend to all "Monday Evenings" during the season. The seats at our disposal are limited.

WE would call the attention of our readers to the letter which appears in another column from the Assistant Secretary of the Photographic Society of Great Britain. We understand that there will be some very admirable new work at the Pall Mall Exhibition, and that many of the photographs will attract much attention. The opening conversation will be held on Saturday, the 26th prox., and the public opening on Monday the 28th prox.

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IN the conditions for our Annual Lantern-Slide Competition, we provide that each competitor shall contribute "a lantern-slide portrait" of him or her self. We wish it to be understood that the portrait may be one taken by any professional photographer; neither the negative nor slide need be the work of the competitor. We hope many are at work preparing for the AMATEUR PHOTOGRAPHER 1891 Lantern-Slide Competition, and that we shall have a large number of competitors; entry forms will be sent on receipt of stamped addressed envelope.

—+33+—

THE arrangements for the October *Photographic Quarterly* include as the frontispiece one of Prince Antonio Ruffo's delightful studies which received such high commendation at Vienna, and of which there are a very large collection at present on exhibit at the Camera Club. Prospective arrangements embrace articles from H. P. Robinson, "The Transition Period;" Geo. St. Clair, F.G.S., "Images and the Contrast of Colours;" H. Dennis Taylor, "The Rendering of Natural Light and Scales in Photography;" John Hall Edwards, "Photography as an Aid to Research;" Bernard Alfieri, "In the Ardennes" (illustrated); E. J. Humphrey, "Life on the Broads" (illustrated); Clement J. Leaper, "How to Manipulate Printed-out Silver Gelatino-Chloride Papers;" Rev. T. Perkins, "A Ramble in Spire Land" (illustrated). In addition to the above and possibly other articles, we hope to include a photogravure, by Mr. Walter L. Colls, of a beautiful little landscape by a prominent amateur worker and medallist, that will be greatly appreciated by readers of the *Photographic Quarterly*.

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THE *Daily Graphic* recently had the following:

"Photography has certainly been useful in the highest degree in suppressing a great deal of bad art, and nearly extinguishing the incompetent amateur. Formerly, wherever you went for an autumn holiday, you found the amateur sketched terribly overpowering. In all directions did you encounter boarding-school misses perpetrating imbecilities with a black lead pencil, and weak-kneed youths achieving crude improbabilities in water-colours. It is satisfactory to find they are rarely to be met with in the present day. The camera has taken the place of the sketch block, and the mahogany tripod does duty for the portable easel. The harmless hand-camera takes snap-shots, to the great content of its proprietor, but the waste of honest plumbago, of good drawing-paper, and valuable pigment is fortunately arrested."

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IN Section A of the British Association, the Committee, consisting of Mr. G. J. Symons (Chairman), Professor R. Meldola, Mr. J. Hopkinson, and Mr. A. W. Clayden (Secretary), appointed to consider the application of photography to the elucidation of meteorological phenomena, submitted their report, and state that "The number of photographic prints actually received up to the time of closing this report (July 20th, 1891) is not large. The total number, 153, includes 95 of clouds, 11 of lightning, 6 of damage by lightning, 2 damage by hail, 3 of the positions of meteorological instruments, 6 of glacier structure, 3 of fog shadows, 8 of hoar-frost, 2 of snow-crystals, and some others. But these can only be regarded as a first instalment of the results of the year's work, and your Committee look forward with confidence to a considerable increase in their collection

during the next few months." In connection with the registration of photographs in other collections, they say:—"This section of the work has hardly been commenced. Several prominent firms of professional photographers have been approached with a view to tabulating the pictures they possess, but they have not offered any special facilities. This is to be regretted in some ways, but there seems reason to hope that another year something of the kind might be done." Specimens of cloud photographs have been received illustrating several methods. The registration of photographs of lightning is beset with difficulty, just such as interfered with the description of clouds. A provisional classification has been issued under the authority of the Thunderstorm Committee of the Royal Meteorological Society. This, however, was premature, and cannot be regarded as satisfactory. The Committee have, as a consequence, turned their attention rather to the study of lightning than to recording pictures of it. The Committee, in concluding their report, ask to be re-appointed, with a grant of £15, in order that they may have an opportunity of following up the beginning that has been made.

We understand that in connection with Section C there was an interesting collection of photographs illustrating the geological features of the country; in all upwards of 500 have been received by the committee of the section.

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THE Preston Camera Club have got into their quarters, and an official opening will take place on Thursday, the 10th of September. We are sure the Committee will gladly welcome any workers in photography resident in Preston or neighbourhood. Mr. W. J. T. Jackson, of 55, Fishergate, Preston, will give particulars about the Club and the opening evening to any who may be interested.

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AT the moment of going to press we have received the following list of awards made in the photographic section of the exhibition now being held at Falmouth under the auspices of the Royal Cornwall Photographic Society:—

First Silver.—F. W. Edwards, W. W. Winter, and W. J. Byrne.

Second Silver.—Lyd. Sawyer, and Rev. H. B. Hare.

First Bronze.—H. Tonkin, A. G. Tagliaferro, C. Court Cole, J. P. Gibson, and J. E. Austin.

Second Bronze.—W. D. Welford and Rev. G. E. Hermon.

The prizes in the photographic appliances section will be awarded after being subjected to a practical test. Next week we shall publish our usual criticism upon the photographs exhibited.

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IT gives us much pleasure to inform our readers, and especially those who intend to enter our 1891 Lantern Slide Competition, that the Exhibition Committee of the Photographic Society of Great Britain have advised us that they will have pleasure in allowing the AMATEUR PHOTOGRAPHER 1891 Prize Lantern Slides to be shown at one of their lantern evenings. Due notice will be given of the date. We are extremely grateful to the Committee for giving us this opportunity of exhibiting publicly in London the work of our lantern slide competitors, and feel certain that especially to metropolitan workers the action of the Committee will be hailed with much satisfaction.

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OUR readers will be interested to hear of the safe arrival at the Cape of Major Fortuné Nott, whose contributions to our columns are so highly esteemed. Major Nott's passage was taken in the *Scot*, in which steamship there was a most distinguished company. General Booth, of the

Salvation Army, was among the passengers. The voyage of the *Scot* was not remarkable for any incident of a striking character, although its speed fully justified the expectations of its owners.

WASHING NEGATIVES AND PRINTS.

THE washing of negatives and prints is always a troublesome operation; and the question is often asked, how long ought negatives or prints to be washed so as to completely free them from hypo? This is a difficult question to answer, because a great deal depends upon the method of washing adopted.

The market is flooded with washing tanks and washing arrangements, which may or may not do their work efficiently, a great deal depending upon their construction and their mode of action. If we consider for a short time the main end of washing, we may perhaps arrive at what we want to know. We have a film of gelatine saturated with a solution of hyposulphite of soda, and we want to get rid of the hypo; we are assuming now that we are treating negatives. Now, it is a well-known fact that a solution of hypo is heavier than water, and that this difference increases with the rise in temperature of water. The most natural plan which suggests itself is then to place our film in such a position that the hypo shall be dissolved or drawn out of the film and sink to the bottom of the vessel, and thus allow fresh water, or water holding less salt in solution, to come in contact with the film; the most reasonable position for the plates is then film downwards, and this is the position in which the hypo is removed most quickly from the film. But to place, say, a dozen plates, film downwards, means a very large dish or tank, so we place them in the next best position, and that is edgeways; even in this position, however, there is, we venture to think, a right and a wrong way of doing it. If we place the negatives with the longer base of the plate upright, the water which removes the hypo from the top of the plate falls down the whole length of the plate, and the natural reasoning is that the top of the plate must be freed from hypo quicker than the bottom. That this is actually the case we have experimentally proved by stripping the film from a plate thus washed, and cutting it into four strips, and then boiling the strips in water and testing the solution thus obtained for hypo, when the lower strips were found to be richer in hypo than the upper; the natural deduction from this is to place the plates with the longer side horizontal.

A moment's consideration will show us, too, that if the plates are not upright but sloping forward, we shall get rid of the hypo quicker. There is also another point to consider: Suppose we have our plates in a rack which touches the bottom of the tank, the lower portion of the plate rests in a solution of hypo continually increasing in strength, unless the water be drawn off from the bottom. Commercial washing tanks are usually provided with an outlet at the bottom, and are so arranged that there is a constant current of water.

Many workers, however, prefer, if not for negatives, for prints at least, to place the prints in a dish of water and allow it to stand for ten minutes, then pour off the water and replace with fresh. We have had occasion lately to defend a statement we had made, and for this purpose the following experiments were made:—Ordinary commercial plates exposed, developed, and fixed in the usual manner were well rinsed under a tap as they came from the fixing tank of hypo solution (1 : 5); one was then placed film up in a dish and covered with water to the depth of one inch; a second was placed film down in the same quantity of water, but resting on wires so as to be practically at the top of the water, the glass side being merely covered; three plates were then placed in a washing trough in which the water supply and outlet were both at the bottom, the water being kept in constant circulation; three plates were placed in a trough in which the water entered at the top and with outlet at the bottom. The single plates in the dishes had the water changed every ten minutes for one hour, the washing tanks were kept in full flow for the same period of time. The washing waters from the single plates were reserved, placed in absolutely clean bottles, and tested quantitatively for hypo, with the following results:—

Plate 1, washed in dish film up:

1st washing water contained..	0.159	per cent hypo.
2nd " " "	0.121	"
3rd " " "	0.073	"
4th " " "	0.049	"
5th " " "	0.019	"
6th " " "	0.004	"

Plate 2, washed in dish film downwards:

1st washing water contained..	0.219	per cent. hypo.
2nd " " "	0.167	"
3rd " " "	0.095	"
4th " " "	0.052	"
5th " " "	0.030	"
6th " " "	0.011	"

The film was then stripped from each plate, boiled and tested for the total amount of hypo.

Plate 1 gave 2 grains to 24 square inches.

Plate 2 gave 1.3 " " "

The plates washed in the tanks were next examined; these were soaked film downwards in water for ten minutes, and the water tested.

Plate 3, washed in tank with supply and outlet at bottom, gave 0.007 per cent. hypo.

Plate 4, washed in tank with supply at top and outlet at bottom, gave 0.001 per cent. of hypo.

From these tests it is obvious that the last traces of hypo are extremely difficult to remove, and plates washed for twelve hours in a washing tank of the most approved construction still gave when tested more than distinct traces of hypo. This subject is of sufficient importance to warrant further notes and experiments, which we hope to be able to carry out during the next few months.

EXHIBITIONS.

SOCIETY.	Place.	Open.	Close.	Last date for sending in.	Secretary.
Royal Cornwall Polytechnic...	Falmouth.	Aug. 25.	Aug. 29.	Aug. 11.	E. Kitto, The Observatory, Falmouth.
Exhibition Committee ...	Amsterdam.	Sept. —.	Oct. —.	Sept. 1.	Chr. J. Schuivier, P. C. Hoofstraat 72, Amsterdam.
Am: Phot: Soc: ...	Glasgow.	Sept. 1.	Oct. 3.	Aug. 22.	Wm. Goodwin, 3, Lynedoch Street, Glasgow.
Phot: Soc: ...	Hackney.	Sept. 23.	Sept. 24.	.....	W. Fenton Jones, 6, Victoria Street, Hackney, N.E.
Phot: Soc: of Great Britain	London.	Sept. 28.	Nov. 12.	Sept. 16.	H. A. Lawrance, 50, Great Russell Street, London, W.C.
Phot: Soc: ...	Hackney.	Oct. 21.	Oct. 22.	.....	W. Fenton Jones, 6, Victoria Street, Hackney, N.E.
Art Gallery Committee	Leeds.	Dec. 7.	Jan 9.	Nov. 27.	Geo. Birkett, Municipal Art Gallery, Leeds.

Letters to the Editor.

DARK-ROOMS IN BARRACKS.

SIR,—I heartily agree with "Centurion" in his difficulties about a dark-room in barracks, and being an amateur of the roughest and readiest type, and having met with the same difficulties myself, and successfully surmounted them at different times and in divers places, may I ask for some of your space in shortly detailing the principle of my first "dark hole," adding what I should do if in "Centurion's" place. I was living in an unfurnished room, as bare as a board, beyond my extensive furniture of a spring mattress on the floor, a trunk, and sundry pails and bottles with which to make my first plunge into the mysteries of "catching shadows." The dark-room puzzled me at first, as I could not hammer the plaster about day after day, and would not wait till night. I placed my trunk against one wall (with the end to the wall) about two or three feet out from the angle or the corner of the room, and leaned the spring mattress against the wall, with its lower end on the outside edge of the trunk. The trunk thus gave me a table; and a pail on one side for a sink, and one for water on the other, with a box in between for a seat, gave me the needful. The spring mattress I covered over with my blankets and coats; it being necessary to go to bed every night I could not nail the blankets, and had to tuck them very carefully to make them set close against the wall. Under this inexpensive arrangement I saw my first negative appear and many another afterwards. The principle of this might perhaps be applicable to some of the cramped conditions in which many of our British "Centurions" find themselves. Were I circumstanced so, I should try to scheme out the following: Four bamboo poles four feet long (the length of packing box he mentioned), fitted *a la* fishing-rod, with one or two joints, to drop inside when packing, and screws to hold them up when in use, making poles six or seven feet long, a pin in the top like a tent-pole and guy ropes as with a tent would hold the poles in place when the covering was on. This, circumstances must decide on, and if inside anywhere, army blankets and waterproof overcoats would come in better than the ones I had, I expect, if made on the lean-to principles as I at first suggested. Ventilation can be attained by using a coat for the top covering and pinning the

sleeves up to the wall, curving them over to prevent our friend and foe "light" from entering, and putting a round tin fruit can with each end knocked out in the ends of the sleeves to hold the ends open, and perhaps one in the centre. Long-pointed drawing-pins would be just the things to pin the coats, etc., to the wall if of boards, without leaving costly damage marks when leaving barracks altogether. I can make no suggestion as to tent material, not being an inventor. I copied the following about four years ago out of an American work, "Wilson's Photo-graphics," but do not know what it is worth:—

"Dyed Cloth for Dark Tent.

(1)

Acetate of lead, 1 oz.
Water, 1 quart.

(2)

Bichromate of potash, 1 oz.
Water, 1 quart."

Wash cloth first if new, then dip in No. 1 and drain a little, then dip in No. 2 and rinse a little, repeat three times, and then wash the loose colour out. If inside the barracks, drawing pins would effectually hold the cloth, or blankets, to the floor, and circumscribed space not allowing guy ropes, two cross-pieces with a hole at each end to fit over the pins in top joint of bamboo, and a peg to hold them together where they cross each other, would hold the poles rigid, while for the lower ends of the poles lots of expedients will present themselves to hold them rigid, without much damaging the floor, such as four old boots with the heels off; to let one screw hold them from moving, the pole set in and filled round with earth in the boot.

In Port of Spain, Trinidad, where all the hotel rooms have lattice work round the top, and so leak light all night, I pulled the bed clothes half on to the floor all round, stuck my head and shoulders

under, and successfully developed some negatives to find out how my plates worked in that brilliant climate, and timed my exposure accordingly, developing when I got back again to England. I nearly stewed in the operation, however. For dishes I find table oil-cloth just the thing, doing everything but "developing" in them. They are just light boxes nailed together (screws would be more practical for army life, as if numbered on the sides and ends they could be folded up together when packing) and lined with oil-cloth, which in packing must be rolled, not folded, and tacked along the edge all round. Care must be taken not to break the oil coating (a bottle of sealing wax varnish might remedy this, though I have never had any trouble) with the corners of negatives or finger-nails in picking negatives up. The corners are

"AMATEUR PHOTOGRAPHER" COMPETITION PICTURES.



A CLASSIC FACE.

By S. DE LARA COHEN.

difficult to fold neatly, but a little time will settle the difficulty and give a smooth, watertight dish. My oilcloth sink, about 2 ft. by 15 ins. by 10 ins. deep, has had water and acid washings in it for months now, and is as good as ever. I thus have sink and washing and toning dishes for about seven shillings, which would have cost me thirty or forty or more if I had bought them of porcelain or ebonite. Japan ware is no use, as it comes off and then rusts. They are easily cleaned if rinsed always after using, and though they need care in handling, especially from finger-nails and dropping hard things into them, they are very effectual and lasting. That table oilcloth will last well, and after a good soaking to get the new smell off will not hurt such delicate things as silver prints and a gold toning-bath, may be inferred from the fact that I made an aquarium with it once, in which I had big stones built up for rockery, carefully put in of course, and fish and water insects living in it for months until winter came and I turned them back into the river.

I am afraid I have written a long letter, but trust that these jottings from practical experience with rough and ready appliances may help some amateur photographers who have not attained to exalted rank, and may possibly be circumscribed in space, cash, and time, while they feel photography's sweet but furious fascination as much as those who are steeped to the lips in its science, and surrounded with every appliance that has been invented to aid them. I am confident there is many a hard-worked army officer who in his spare time will turn out from his bungalow or barrack studio finer and more real pictures than many who sit at ease at home, and who photograph because it is the fashion, turning things of beauty into abominations for ever.—Yours, etc.,

Nova Scotia, Aug. 3rd, 1891.

AGRICOLA.

* * * *

HELP A POOR PROFESSIONAL: A DESERVING CASE.

SIR,—I have been spending some time at Deal, on the Kentish coast, and during my stay there I received great courtesy and assistance from a local professional photographer, who is in a moderate way of business.

I made some general enquiries into his circumstances, and I find that his father was formerly a wet-plate worker, but now works at boot-making, leaving the photographic business to the son, who is quite a youth, but appears to have considerable aptitude, though he is seriously handicapped by the want of a proper apparatus. He said to me that if he could only obtain a whole-plate camera and another lens or two, he thought he could get on very well.

As I know you have always shown yourself willing to do anything in your power to help such a case as this, perhaps you will ask your readers if any of them can spare an apparatus, preferably whole-plate; old-fashioned or out of order would do, as I have no doubt he could put it in good working order for himself. His family are most respectable people, but not in a position to help him materially, and give him a fair start.

I would suggest that if in the course of a week or so you do not receive something suitable, you might intimate your readiness to receive subscriptions of small sums, and also to inaugurate a permanent fund for the assistance of needy professionals; all subscriptions of money or apparatus to be acknowledged in your paper, and the disposition of the funds or materials to be left in your hands.

I may say that Deal is a capital place for a photographic centre, the charges being very reasonable, and there are excellent facilities for visiting the neighbouring towns and villages. There is a curious regulation on Deal Pier, by which a charge of 2s. 6d. is made for taking photographs thereon. It used to be 10s. 6d. However, upon my representing to the piermaster (who, by the way, is a particularly genial fellow, and seems to be a great favourite with the visitors) that I only took the photographs for amusement, and not for the purpose of selling them, he relaxed the regulation in my favour, and only expressed a wish that I should send him a copy of whatever I took. As some of the photographic publishing firms have paid a considerable sum for permission to photograph from the pier, the regulation can scarcely be considered an unfair one, though I think that in the case of *bona fide* amateurs it will be readily relaxed, as in my case.

I returned to London by steamer of the General Steam Navigation Company, and desiring to change some plates *en route*, I searched the ship for a dark-room, and found that the ticket inspector's office answered the purpose admirably, and I readily

obtained permission to use it. A capital dinner can be had on board *ad lib.*, at a moderate charge, and altogether the trip is a most enjoyable one.

With reference to the former portion of my letter I may say that I should not favour the assistance of professionals who have become badly off through any fault of their own, through drink or otherwise, but I think the case I mention is a fair type of those for whom the proposed fund should be available, *i.e.*, its main object should be to give beginners of good character a little assistance at the commencement of their career.—Faithfully yours,

HARRY ALCOCK.

Cricklewood, N.W., Aug. 24th, 1891.

* * * *

"WANTED, A SHUTTER."

SIR,—If Mr. Hood Daniel is not a stickler at paying a good price for a good article, I would recommend to his notice Messrs. Bausch and Lomb's new shutter, but he will have to send his lens-tube to America to be fitted with same, and pay something like 30s. duty, if of English make. However, it is well worth the outlay. I have one, and am very pleased indeed with it. The mechanism is marvellously simple and ingenious, the shutter is set without uncovering the lens, and the whole is very compact and light, if made in aluminium (which I would advise him to have). There is only one point it will not do, that is, re-open without re setting, but it is so very easily re-set that this is no objection.

I will gladly lend him my catalogue of the makers' goods if he will write me (care of Editor), but I cannot come across it for the moment.—Yours faithfully,

J. MORSON.

Aug. 22nd, 1891.

* * * *

THE PALL MALL EXHIBITION.

SIR,—Kindly permit me to remind intending exhibitors that Monday, September 14th, is the last day for receiving "packing cases" from the country by our agent, Mr. Bourlet, 17, Nassau Street, Middlesex Hospital, and that Wednesday, September 16th, is the only day for receiving pictures and apparatus at the Gallery, 5A, Pall Mall East, S.W. Entry forms and further information may be obtained from me.—Yours truly,

50, Great Russell Street,
Bloomsbury, W.C., Aug. 24th, 1891.

H. A. LAWRENCE
(Assist. Sec.)

* * * *

EXHIBITION RULES.

SIR,—"Puzzled" wishes a more definite answer to his little question, and I beg to inform him that our reading of our own rule is that one picture out of a medalled set is *not* eligible to compete in a new set of four. I would be inclined to ask him in turn—If one, why not three?

With all his other remarks I quite agree. In my (unofficial) opinion, the Champion Class does not work well in its present form. It seems hopeless, however, to discuss the matter, for it would simply lead to one of these undecidable controversies in which photography proves so fertile.—Yours, etc.,

Glasgow, 1891.

WM. GOODWIN
(Hon. Sec., Glasgow Exhibition).



Pointers about Bromide Paper.*

1. BROMIDE of silver paper furnishes a very simple means for making photographic impressions. It is an emulsion holding in suspension the bromide haloid of silver, and spread upon paper of peculiar and well-selected properties by complicated machinery. It is highly sensitive to light, and for that reason artificial light sources, more easily controlled in their action, are preferred for printing; but it is not a printing-out paper, like albumen or the well-known chloride of silver gelatine emulsion papers; it must be developed.

2. Proofs can be made upon bromide paper from the negative as soon as the fixing agent has been removed from it thoroughly. Wetting the paper and bringing it into

* Taken from a manual entitled "Bromide and How to Use It," just issued by The Scovill & Adams Co., New York.

absolute contact with the negative, exposing to the light of a petroleum or gas flame, and the subsequent ordinary method of developing and fixing, are all that is required to prepare a proof within the time the patron of the establishment still tarries in the studio.

3. When handling and developing the paper the same precautions required by sensitive emulsion plates must be necessarily observed, but as the standard sensitiveness of it has been kept purposely below that of an emulsion for negative work, instead of the ruby light, yellow or orange may be used.

4. The time of exposure varies with the intensity of the negative, and that of the source of light and the distance from it. A steady and brilliant artificial light—that of a one-inch petroleum burner or fish-tail gas jet—is more controllable than the fickle diffused daylight; and after one or two experiments in regard to the distance between plate and light-source, the correct time of exposure is easily ascertained. With a petroleum lamp of the above described luminous force, and at a distance of eighteen or twenty inches from it, a negative of average density requires an exposure of from eight to twelve seconds, but very feeble plates may be printed from by the same light in one or a fraction of a second. When the negative is very harsh and dense, diffused daylight should be used, and the print is rather over-exposed, half-tones may be brought out, impossible to obtain from the same negative by any other method of printing.

5. To control over-exposure some manufacturers of bromide of silver paper resort to restraining with bromide of potassium. But prints restrained in that manner are rarely of the desired bluish-black tone and brilliant whites; their colour tends toward an olive-green, accompanied by a loss of middle-tints. When over-exposure is suspected we add but a part of the iron solution to that of the potassium oxalate; proceed cautiously and slowly, adding gradually small portions of iron until the process goes on uniformly.

6. The developer given for "Star" bromide paper:—No. 1: Natural potassium oxalate, 8 ozs.; water, 24 ozs.; Oxalic acid, 1 drachm. No. 2: Protosulphate of iron, 8 ozs.; water, 24 ozs.; sulphuric acid, 15 minims.

These solutions keep well for an indefinite time, but should be mixed only immediately before use. The iron solution must be added to that of the potassium oxalate, not *vice versa*.

The developer is composed of six volumes of No. 1 and one volume of No. 2. For the development of a 5 by 8 print about two ounces is sufficient, and the mixture may be made by adding a quarter of an ounce of No. 2 to six quartor ounces, or one and a half ounces of No. 1.

The clearing solution, consisting of two drachms acetic acid No. 8 and twenty ounces of water, or one drachm of citric acid in the same quantity of water, solvent.

The fixing bath: a solution of five ounces of sodium hyposulphite in thirty ounces of water. Immerse the print in this solution, face down, and let it remain there for six or eight minutes, and in absolute contact with the bath. Owing to the absence of silver iodide and the extremely thin gelatine film, fixing is done rapidly.

7. *Accelerator*.—Hyposulphite of sodium is a powerful accelerator to the development with ferrous oxalate. A solution of this salt in the proportion of 1 : 3000, and but ten drops of it added to the developer, will produce visible effects; and although hypo is not recommended as an accelerator for the developing of bromide prints, because of its tendency to injure the whites and to produce dull blacks, we mention the power of this salt, with the advice to keep it away from the developing tray or other utensils employed.—*Wilson's Photographic Magazine*.

Composition, and Light and Shade.

Selected and arranged for the use of Photographers, from "Burnet's Essays," with Introduction and Notes.

By H. P. ROBINSON.

CHAPTER XV.

If the lights are to predominate in a picture from the ground being low in tone, it is of the utmost consequence that they should not only be varied in form and magnitude, but that they should produce an agreeable arrangement in the picture, seeing that they will attract greater notice than when the ground is lighter.

I shall here take the liberty of introducing a passage from Reynolds' works, as nothing can exceed it in utility and justness of observation. In his notes upon Fresnoy, speaking of light and shade, he says, "The same rules which have been given in regard to the regulation of groups of figures must be observed in regard to the grouping of lights; that there shall be a superiority of one over the rest, that they shall be separated and varied in their shapes, and that there should be at least three lights; the secondary lights ought, for the sake of harmony and union, to be of nearly equal brightness, though not of equal magnitude with the principal."

The Dutch painters particularly excelled in the management of light and shade, and have shown, in this department, that consummate skill which entirely conceals the appearance of art.

"The means by which the painter works, and on which the effect of his picture depends, are light and shade, and warm and cold colours. That there is an art in the management and disposition of those means will be easily granted, and it is equally certain that this art is to be acquired by a careful examination of the works of those who have excelled in it.

"I shall here set down the results of the observations which I have made on the works of those artists who appear to have best understood the management of light and shade, and who may be considered as examples for imitation in this branch of art.

"Titian, Paul Veronese, and Tintoret were among the first painters who reduced to a system what was before practised without any fixed principle, and consequently neglected occasionally. From the Venetian painters Rubens extracted his scheme of composition, which was soon understood and adopted by his countrymen, and extended even to the minor painters of familiar life in the Dutch school.

"When I was at Venice, the method I took to avail myself of their principles was this: when I observed an extraordinary effect of light and shade in any picture, I took a loaf of my pocket-book, and darkened every part of it in the same gradation of light and shade as the picture, leaving the white paper untouched to represent light, and this without any attention to the subject or to the drawing of the figures. A few trials of this kind will be sufficient to give the method of their conduct in the management of their lights. After a few experiments I found the paper blotted nearly alike: their general practice appeared to be, to allow not above a quarter of the picture for the light, including in this portion both the principal and secondary lights; another quarter to be as dark as possible; and the remaining half kept in mezzotint or half shadow.

"Rubens appears to have admitted rather more light than a quarter, and Rembrandt much less, scarce an eighth; by this conduct Rembrandt's light is extremely brilliant, but it costs too much; the rest of the picture is sacrificed to this one object. That light will certainly appear the brightest

which is surrounded with the greatest quantity of shade, supposing equal skill in the artist.

"By this means you may likewise remark the various forms and shapes of those lights, as well as the objects on which they are flung; whether a figure, or the sky, a white napkin, animals, or utensils, often introduced for this

purpose only. It may be observed, likewise, what portion is strongly relieved, and how much is united with its ground; for it is necessary that some part (though a small one is sufficient) should be sharp and cutting against its ground, whether it be light on a dark or dark on a light ground, in order to give firmness and distinctness to the work; if, on the other hand, it is relieved on every side, it will appear as if inlaid on its ground. Such a blotted paper, held at a distance from the eye, will strike the spectator



FIG. 31.

as something excellent for the disposition of light and shadow, though he does not distinguish whether it is a history, a portrait, a landscape, dead game, or anything else; for the same principles extend to every branch of the art.

"Whether I have given an exact account, or made a just division of the quantity of light admitted into the works of those painters, is of no very great consequence; let every person examine and judge for himself: it will be sufficient if I have suggested a mode of examining pictures this way, and one means at least of acquiring the principles on which they wrought."

As a wall or flat surface recedes from the light, it necessarily becomes darker, and as the outline is more or less defined, it has the property of advancing or receding (fig. 31). These may seem to be properties too evident to every one to need any explanation: but when we see a foreground, in place of coming flat up to the edge of the frame, appear to slope down like a declivity, we must either suppose that the painter knew not the principle of assisting the perspective by means of light and shade, or had not the faculty of seeing nature. When we consider that nature spreads out her landscape upon a horizontal plane, and that we have to compete with her upon an upright surface, we shall find we have not only to call into our aid strong light, coming in contact with sharp dark, warm colours, and such as have the property of advancing, but to subdue the more distant part of the ground by soft shadow and retiring cool tints.

When the composition is kept dark, forming a mass of shadow in the centre of the canvas, the light is often conducted round it by means of the sky, water, or light foreground (fig. 32), and as the dark becomes in a manner



FIG. 32.

isolated, it receives great vigour and importance. As this is the reverse of fig. 30, chap. 14, we find the same simple broad principle predominant, and whether it be composed of a clump of trees, or the dark dress of a whole-length figure, we find the management guided by the same rules; only if a portrait, the circumstance of the face coming light off the background requires the feet or base of the figure to tell dark on the ground, for the sake of firmness; and if any part is more lost in the background than another, it perhaps ought to be the middle portion of the figure. If a clump of trees such as we often find in Claude is to be represented, their stems shoot out from a ground of the same darkness, thereby producing a union of the trees with the shadow which they cast on the ground. As a light in the centre of dark tints must thereby acquire an increased consequence, so a dark in the middle of light tints receives the same importance.

I have noticed in another place the union of one part of the picture with another, by means of a repetition of the light: it will therefore be unnecessary to say anything further upon such management. I may, however, observe that it is not only of service to repeat the light, but, also, that it should be of the same colour (fig. 33); accordingly we observe in Cuyyp, whose principal light is often yellow, that it is carried into the dark part of the picture by means of yellow drapery, a cow, sheep, or a few touches of golden colour, according as he wishes such extension of his light large or small. If the principal light is cold, such as blue and white, we find it repeated either by a reflection in water, or a figure dressed in the same cool tint. Portrait painters generally make use of the light in the sky to repeat the lights of their head and hands, by making it of the same colour.



FIG. 33.

The objects of chiaroscuro, or arrangement of light and shade, are to assist composition of line. First, to give a pleasing general effect, by dividing the space into masses, giving breadth and preventing that confusion and perplexity incident to the eye being attracted by numerous parts of equal importance at the same time. Secondly, to make conspicuous the principal object represented, so that the eye may first see it, and be gradually and insensibly led to examine the whole picture; to keep parts in obscurity, and to relieve others according to their pictorial value; and, thirdly, to aid the sentiment and expression. That quality called breadth is the chief resource for the attainment of nearly all these desirable objects, and Burnet rightly begins his observations on light and shade by giving illustrations of the meaning of the term.

The perfect appreciation of the pictorial value of breadth would prevent many thousands of photographs from being taken, but

it would add greatly to the value of the smaller quantity produced. It is scarcely too much to say that nothing pictorially beautiful was ever produced that had not breadth of effect. It may, of course, be said that the light and shade of nature, especially in landscape, is the light and shade the photographer is compelled to produce. Granted, but knowledge will teach him what to avoid as well as what to select. The same subject may be so lighted at one time of the day as to cause great irritation to the artistic sight, and at another present broad masses of light and shade as to be quite beautiful. It is always a useful lesson to study different aspects of the same scene at different times of the day and atmospheric conditions. It would be still further useful if the student would note down what appeared to him to be the cause why more beauty was present at one time than another, guided by the teaching of our author. And by way of giving him a hint to aid his thinking, I extract this passage from an admirable writer on art:—"It may, perhaps, be said that the imagination, from a few imperfect hints, often forms beauties which have an existence, and that indifference may naturally arise from those phantoms not being realised. I am far from denying the power of partial concealment and obscurity on the imagination, but in these cases the set of objects, when seen by twilight, is beautiful as a picture, and would appear highly so if exactly represented on the canvas; but in full daylight, the sun, as it were, decomposes what had been so happily mixed together, and separates a striking whole into detached unimpressive parts."

The testimony of Sir Joshua Reynolds, in the extract from his notes on Fresco, is curious as a record of the scientific knowledge of chiaroscuro in his time, and is most useful as an example to the student of an intelligent method of study. If the photographer wishes to obtain a real knowledge of art, let him, as part of his training, follow the method here indicated. A week or two of study in the National Gallery in the estimation of light and shade alone, supplemented by another course of study on the same lines out of doors, would teach him more than years of vague reliance on his own supposed artistic instincts or in-born taste, and it would also go far towards convincing him, if he doubted, as some do, that there is principle underlying all art.

Freehand Drawing and Photography.*

BY THE HON. J. G. P. VEREKER.

THE purchaser of a microscope, very soon after he begins to use it, finds the necessity of making drawings of the various objects. This he does for the purpose of impressing the details on his mind, and also for making notes of interesting points of structure, either from his own slides, or from those which may pass through his hands from other sources, such as the Postal Microscopical Society.

There are three methods of obtaining these pictures; namely, Freehand drawing, tracing by means of a camera lucida, and photography by means of a camera obscura.

Freehand drawing is chiefly useful in making rapid sketches of simple parts, during a continuous investigation of an object; but when a more finished representation is required, it ought to be drawn to scale, and some mechanical aid is required. For this purpose, the most convenient instrument is a circular piece of glass ruled into squares (known as a net-micrometer), which is laid on the diaphragm of the ocular; the paper on which the drawing is made is also ruled into squares; by these means a copy of the magnified image can be made, with a fair degree of accuracy. The scale is arranged as follows:—Suppose an inch-objective is in use, magnifying 50 diameters, place on the stage a stage-micrometer, and, by means of the draw-tube, arrange so that one division of the net-micrometer corre-

sponds exactly with one-hundredth of an inch; make a mark on the draw-tube at this for future reference; exchange the stage micrometer for the object, and make a drawing on paper ruled in squares, the sides of which measure half-an-inch. Then, it is evident, the drawing will be fifty times the size of the original in lineal measure.

For more exact and complicated work, it is necessary to trace the magnified image, as far as possible, by means of one of the forms of the camera lucida; and also to trace some divisions of the stage-micrometer on the same drawing, so as to make a scale; the drawing is then finished up by hand. The above methods are capable of doing very good work, but require a good deal of time, and when a large amount of small detail is to be put in are very tedious; there is also a tendency to make the work pretty and to flatter it, and if self-restraint is exercised in this matter, one does not always get credit for doing so.

The third method—viz., photography—is not open to these objections, as detail is given with great facility, because the lens represents all that is set before it, and as for flattery, there is none; in fact, some people call it "justice without mercy." It is not, however, suitable for some kinds of work, and in that case hand-work is to be preferred.

The art of photo-micrography is not, however, so generally practised as it deserves; and this is not to be wondered at, when one considers the cost of the cameras made for it, and the other paraphernalia generally recommended; which are enough to frighten many from attempting a process which may after all turn out to be unsatisfactory. For those who aspire to do the highest and most difficult work, all this may be necessary; but for those who would like to experiment in the art, and who wish to turn out fairish work and get results good enough for ordinary purposes, a much cheaper and simpler apparatus will answer. Such an apparatus I shall proceed to describe, and as I find it will work satisfactorily with my highest power (1/14-inch, by Nachet), I trust it may prove of use to others. I have a specimen of the work done with it—part of a valve of *Pleurosigma angulatum*. The original of this is magnified 1,632 diameters, but is enlarged three diameters from the first negative, which is a small and sharp one.

The first experiments I made in these cheap cameras was with a cigar-box as a camera; the long-shaped cigar-box will just take a $\frac{1}{4}$ plate ($3\frac{1}{4}$ inches by $4\frac{1}{4}$ inches), and its focal length is about 9 inches; I got a few fairish photographs with this apparatus, but found that it was rather too short, and also had to be covered with an opaque cloth to make it light-tight. I looked about, therefore, for something better, and found it in one of the deal boxes made for storing $\frac{1}{4}$ plate negatives; these boxes have a ledge inside to fit into the cover, and are therefore sufficiently light-tight for the purpose, and being fitted with grooves there is not so much danger from internal reflection. Besides, these grooves enable one to alter the focus if necessary; their length is also better, those holding 50 plates being about 13 inches internal measurement. They can be purchased at all photographic dealers', and cost from 1s. 8d. to 2s. each. Having got one of these, first of all paint them dead-black inside to guard against internal reflection. Bates' black, which may be obtained from the photographic dealer for sixpence a bottle, will answer perfectly.

Now draw diagonals across at each end, as shown in fig. 1 (see next page) at A, so as to find the centres, at their intersection; at one end bore a hole the exact size of the ocular end of the tube of the microscope; the eye-piece, being then pushed into the tube from the inside of the box, will by

* This article appeared in the August number of the *International Journal of Microscopy and Natural Science*.

means of its flange make a light-tight joint, and the box will be rigidly attached to the microscope, and move with it in focussing.

At the other end of the box a hole is likewise bored, either of a size to take a spare eye-piece, or else much larger, so as to enable one to use a focussing glass; as focussing glasses can be bought from a shilling upwards, the latter plan is most convenient; or an eye-piece with the eye lens removed, and the field-glass next to the eye can be used instead. But the focussing glass is preferable.

Having purchased a box of $\frac{1}{4}$ -plate dry plates, take one out of the box in the dark-room, and take it into your working room, in full day or lamp light, and cut a few lines through the gelatine surface with a knife; or, if preferred, a piece of glass of the same size can be used, with a few diamond scratches or paint-marks on it. Now hold the marked side away from you, place the focussing glass against the other side, and carefully adjust the lens till you see the lines clearly and sharply, and make a mark on the brass tube so as to be able to reset it at any time; the glass is now adjusted for your eyesight, and should a ways be used at this focus; this work is easily done against a window frame. Wash the emulsion off with hot water, and cut a piece of white and black carboard the same size.

one, or else cover up the light, as shown at C, and work by the dark-room lamp. Re-open the box and place the blackened card at the end B, and put the sensitive plate gelatine surface towards the microscope in place of the plain glass, and close the box. Place a piece of card or brown paper either between the lens and the object, or the object and the lamp; replace the white chimney or uncover the lamp; remove the card cutting off the light, and make the exposure. Replace the card, and remove the plate by means of the ruby light.

Several other exposures may probably be made without disturbing the apparatus, by simply refocussing; but if much arranging is required, it will be simpler to take the apparatus to pieces. It is best to write the name of the object on the plate; this can be done with a lead pencil on the gelatine surface.

In order to get good results, the light and the centre of the plate must be in prolongation of the optical axis; the plate, if loose, must also be wedged in by blackened card or brown paper placed behind it in the groove; a small bit of wood, such as a match, glued on the bottom of the inside of the box, is a help in keeping the plate vertical.

For those who prefer the convenience of a dark slide, Lancaster's (Colmore Row, Birmingham) Multum in

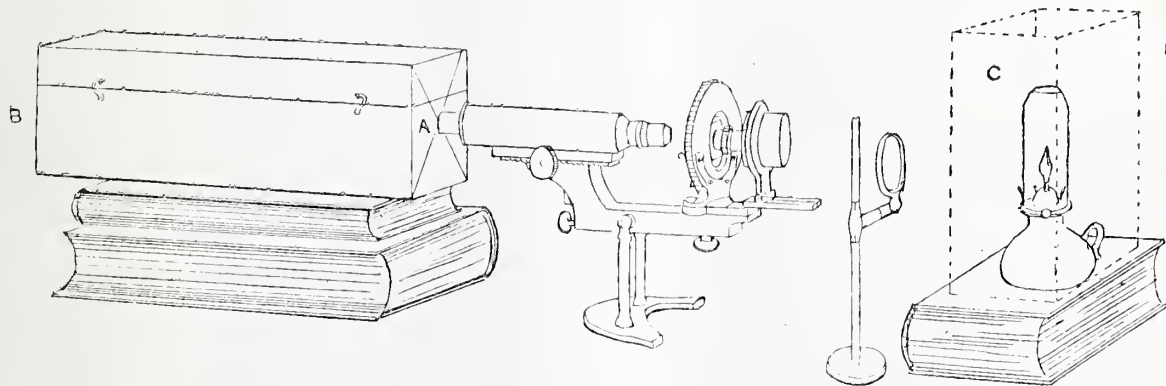


FIG. 1.

Buy a ruby chimney for your paraffin lamp, or else get a dark-room lamp, and make a shade or box so as to cut off the light from your paraffin lamp when changing plates.

The apparatus is now complete, and is used as follows:—The object is placed on the stage, and focussed in the ordinary way; the eye-piece is now removed, and the apparatus is arranged as in fig. 1. The box is brought up to a level with the horizontal body of the microscope by means of books or a wooden stage, and the tube of the microscope is passed through the hole in the box and the eye-piece replaced. The piece of white cardboard is placed into one of the last divisions of the box, and the cover being still open, the image is roughly focussed on the card, special care being taken that the illumination is evenly distributed. The card is now replaced by the sheet of glass, and the focussing finished by means of the focussing glass. Or if this work is done by means of the spare eye-piece, it is pushed in till its diaphragm occupies the place where the sensitive surface of the plate will rest, the plain glass not being used in this case.

At this stage the diaphragm opening must be arranged so as to give the best image; it is also wise to give a final touch through a piece of blue glass, which can be supported on a cork sliding on the mirror bar, in order to allow for a difference between chemical and visual focus; this glass is then removed.

Now replace the white chimney of the lamp by the ruby

Parvo Camera would be suitable. A $\frac{1}{4}$ -plate size, focus 12 inches, costs 10s.; a $\frac{1}{2}$ -plate (6 $\frac{1}{4}$ in. by 4 $\frac{3}{4}$ in.), extending 18 inches, costs 15s., and larger sizes in proportion; a larger size can always be used for smaller plates if required. These cameras are used in the same way, except that the rough focussing is done on the ground glass of the dark slide, which is then exchanged for plain glass for the final focussing; the dark slide is then removed to another room, and the sensitive plate put in, and the exposure made; in this way the lamp is not interfered with.

As these cameras are heavier than the box, the tube of the microscope must be attached by a flexible joint, such as in fig. 2, where the tube of the microscope, A, is attached to a wooden or brass tube, D, fitting into the front of the camera by a sleeve made of black cloth, C, and the joints made good by means of elastic bands,

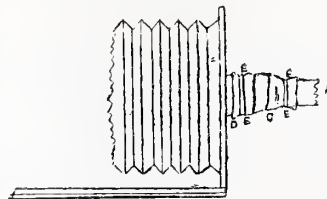


Fig. 2.

EE, EE; or, if preferred, a small bellows could be easily and cheaply fitted for this purpose, having a board with a hole cut to receive the microscope tube.

These short forms of cameras are all used with an eye-piece, except for low magnifications, and there is a great convenience in so doing, as all the adjustments of the

microscope are within reach. The eye-piece is often objected to on the score of loss of light, but by using a common paraffin lamp, with $\frac{5}{8}$ -inch wick, I have found plenty of light for focussing with, even in using a $\frac{1}{14}$ -inch objective. For the very highest style of work, using expensive appliances, the consensus of opinion seems to be in favour of long-focus cameras, without an eye-piece, but these are not necessary for the ordinary beginner.

One of the main difficulties of photo-micrography is the exposure, and this must be learnt by practice. There are many exposure meters and books in existence, and perhaps an instrument like Decoudun's photometer might prove of service, but I have not tried it for this work. The best exposure meter is the eye, judging the brightness of the image as compared with the white ground of the transparent parts; but colour makes a great difference: green, yellow, and brown require long exposures, and red very long. I annex a few exposures taken with an ordinary paraffin lamp, of $\frac{5}{8}$ -inch wick, a small, cheap form of the Webster condenser, and Zeiss' projection ocular, magnifying three and a half diameters; length of camera from eye-piece to plate, twelve and a half inches:—

Objective. Stop of Condenser Exposure.

Proboscis of blowfly . . 1-in. Swift . . medium . . 4 mins.
Green desmid—
Micrasteria denticulata . . $\frac{1}{2}$ -in. Verick . . small . . 2 mins.
Pleurosigma angulatum $\frac{1}{3}$ -in. Nachet . . semi-circ. 4 mins.

For ordinary work a $\frac{1}{4}$ -plate ($4\frac{1}{4}$ by $3\frac{1}{4}$ inches) will be found most convenient, and from this size lantern slides can be made by contact; the plate ought to be of good quality and medium sensitiveness (about 20° Warnerke). Those used in the above list were Mawson and Swan's "Castle" (1s. per dozen) for the proboscis, and for the other two, Paget XXX (at 1s. 3d. per dozen).

Formulae for the development are given with every batch of plates; but for those who do not care to make them up, developers are sold by the dealers which will suit most brands of plates in the market. In the development it is best to snit the exposure to the development, and not *vice versa*, at any rate for a beginner.

Printing can be done by any of the recognised methods; gelatino-bromide (Aristotype, etc.) has, perhaps, a special claim for this work, owing to its power of reproducing fine detail.

For fuller information on photographic processes I must refer the reader to one of the numerous handbooks on the matter, most of which cost a shilling. On Photo-Micrography there are several works, and articles on the subject in the AMATEUR PHOTOGRAPHER, written by Mr. Pringle.

I trust that this slight sketch of the subject may induce some members of the Postal Microscopical Society to try this process, even though their camera may not rise above the cigar-box, as I am sure that they will find both pleasure and utility in it. A dark-room is not a necessity, as any room or cupboard may be turned into a temporary dark-room, so long as it is only illuminated by red or orange light. The magnifying power of the camera ought to be known, and this is best done by measurement in the ordinary way, but a rough approximate rule is as follows:—

Let L be the length of camera.

Let M be the magnifying power in use.

And X the required magnification.

Then as 10 : L :: M : X.

For instance, say L = 12 inches.

M = 50 (1 inch and A ocular).

10 : 12 :: 50 : x.

∴ x = 60 diameters.

British Association.

A PHYSICAL METHOD FOR COLOUR PHOTOGRAPHY

PROFESSOR OLIVER J. LODGE, of Liverpool, President of the Mathematical and Physical Section of the British Association, in his address, mentioning recent events, said:—

"The fourth event to which it behoves me to refer is the practical discovery of a physical method for colour photography. When I say practical I do not mean commercial, nor do I know that it will ever become applicable to the ordinary business of the photographer. Whether it does or not, it is a sound achievement by physical means of a result which the chemical means hitherto tried failed, some think necessarily failed, to produce. I say practical, because already it had been suggested as possible theoretically; and a step toward it, indeed very near it, had been actually made. The first suggestion of the method, so far as I know, was made by Lord Rayleigh in the course of a mathematical paper on the reflection of light, and with reference to some results of Becquerel obtained on a totally different plan. He said in a note that if by normal reflection waves of light were converted into stationary waves, they could shake out silver in strata half a wave-length apart, and that such strata would give selective reflection and show iridescence.

"The colour of certain crystals of chlorate of potash, described in a precise manner by Sir George Stokes,* and also the colours of opal and ancient glass, had been elaborately and completely explained by Lord Rayleigh on this theory of a periodic structure (the laminated structure in the case of chlorate of potash being caused by twinning†); and he subsequently illustrated it with sound and a series of muslin discs one behind the other on a set of lazy-tongs. Each membrane reflected an inappreciable amount, but successive equidistant membranes reinforced each other's action, and the entire set reflected distinctly one definite note, of wave-length twice the distance between adjacent muslins. So also with any series of equidistant strata each very slightly reflecting. They should give selective reflection, and the spectrum of their reflected beam should show a single line or narrow band, corresponding to a wave-length twice the distance of the strata apart.‡

"Independently of all this, Herr Otto Wiener, imitating Hertz's experiments with ordinary light, in 1889 reflected a beam directly back on itself, and, by interposing a very thin collodion film at extraordinarily oblique incidence, succeeded in the difficult experiment of so magnifying by the cosine of inclination the half wave-length, as to get the silver deposited in strata of visible width, and thus to photograph the interference nodes themselves at the places where they were cut by the plane of the film.

"Then M. Lippmann, using a thicker film, not put obliquely but normal to the light, obtained the strata within the thickness of the film itself—hundreds of layers; and so, employing incidence light of definite wave-length, was able to produce a stratified deposit, which reflected back at appropriate incidences the same wave-length as produced it; thus reproducing, of course, the definite colour.

"It is probable that the silver is first shaken out at the ventral segments, but that the strata so formed are thick and blurry. I conjecture that by over-exposure this deposit is nearly all mopped up again, traces being left only at the nodes, where the action is very feeble and takes a long time to occur; but that these residual strata, being fairly sharp and definite, will be likely to give much better effects. And so I suppose that these are what are actually effective in obtaining M. Lippmann's very interesting, though not yet practically useful, result."

* *Proc. Roy. Soc.*, Feb. 1885.

† *Phil. Mag.*, Sept. 1888, pp. 256 and 241.

‡ The footnote of Lord Rayleigh on page 158, *Phil. Mag.*, 1887, vol. xxiv., is brief and forcible enough to quote in full:—"A detailed experimental examination of the various cases in which a laminated structure leads to a powerful but highly selected reflection would be of value. The most frequent examples are met with in the organic world. It has occurred to me that Becquerel's reproduction of the spectrum in natural colours upon silver plates may perhaps be explicable in this manner. The various parts of the film of subchloride of silver with which the metal is quoted may be conceived to be subjected during exposure to stationary luminous waves of nearly definite wave-lengths, the effect of which might be to impress upon the substance a periodic structure occurring at intervals equal to half the wave-length of light; just as a sensitive flame exposed to stationary sonorous waves is influenced at the loops, but not at the nodes (*Phil. Mag.*, March, 1879, p. 153). In this way the operation of any kind of light would be to produce just such a modification of the film as would cause it to reflect copiously that particular kind of light. I abstain at present from developing this suggestion, in the hope of soon finding an opportunity of making myself experimentally acquainted with the subject."

Holiday Resorts and Photographic Haunts.

NORTH DEVON AND SOMERSET AS A FIELD FOR PHOTOGRAPHY.

By JOHN A. HODGES.

I.—Introductory—Limits of the District—Characteristics of the Scenery—Accommodation—Access—Communication by Water—Low Fares—Minehead—Quaytown—Marine and Nautical Work Described—Cattle Studies—Dunster—The High Street—The Market House—The Castle—Architectural Studies—“The Luttrell Arms”—Dunster Mill—Illustration—A Word on Exposure—Cleeve Abbey—An Excursion Westward—Selworthy—Holniseot—An Old Water Mill—Porlock—“Improvements”—A Denunciation—“The Ship”—A Fine Centre—Bossington—A Reminiscence—White-wash—A Word of Caution—Dark-Rooms.

THE district which I am about to describe under the above title extends from Dunster on the borders of Western Somerset to Clovelly in the north-west corner of Devonshire, and embraces the entire northern coastline of the latter county. Within these limits is contained, it may be said without exaggeration, some of the most beautiful scenery to be found in England. Not the least of its characteristics is its diversity. Possessing a magnificent coast line, cleft at frequent intervals with deep and richly wooded coombes, through which sparkling trout streams hurry to the sea, its suitability for the purposes of photography are at once apparent. The accommodation, generally speaking, is most excellent, good hotels are to be found at all the places which will be referred to as centres, lodging accommodation also is both cheap and good; indeed, one can probably live more economically in Devonshire than at most places.

The district can be easily and cheaply visited from London, the Great Western Railway issuing return tickets to Minehead available for the fortnight for the extremely moderate sum of 14s. An alternative mode of approach from London and the south would be to proceed by train to Bristol, from whence one of the fine steamers of the Bristol Channel Passenger Service Co. may be taken to either Minehead, Lynmouth, or Ilfracombe. Mr. Fry, the agent of the company, of 59, Broad Quay, Bristol, will, upon application, forward a time table of sailings from Bristol, with list of fares, which it may be mentioned are very low.

Minehead, though not in itself very attractive from a photographic point of view, forms a capital centre from which to explore a district which will be found to yield abundance of

material to employ the “shadow snatcher” for a considerable period. The best time to make the visit would be during the early summer, when apartments, etc., are extremely cheap. After the middle of August, however, the hunting season commences; the town is then alive with huntsmen, and accommodation becomes both difficult to obtain and expensive. The older portion of the town lies under North Hill, and consists of a cluster of old-fashioned cottages straggling along the Quay, and bounded on the extreme west by a rather primitive-looking pier. Hereabouts some very pretty marine studies will reveal themselves, and some good points of view will be found (by those who do not mind a little mud), at half tide from the bed of the harbour. A small gratuity to one of the fishermen who are always to be found lounging on the Quay would obtain the loan of a pair of jack-boots, enabling the enthusiast to work in

comfort and dry shod. Early morning, before breakfast preferably, will be the best time for work round about the Quay.

A delightful day may be spent at Dunster. A path will be found near the station which leads across a stretch of marsh land, intersected here and there by narrow, winding dykes, on the borders of which lazy groups of cattle bask in the sun, affording fine studies of the Potter or Cooper type. In about a mile the road is gained, and very shortly we arrive at the quaint little village of Dunster. Picturesque to a degree, one cannot suggest a single alteration or addition to improve the composition which Dunster presents. Looking down the High Street from the entrance to the churchyard, the old-fashioned Market House is a prominent object in the middle distance, the castle, embowered in masses of foliage, standing out in bold relief against the sky. To those who are fond of architectural work a quiet stroll through the side streets will reveal many curious studies of pure Elizabethan work. Enquiry should be made for Dunster Mill, which is well worthy of a plate. The mill stands in private ground, but permission

to photograph is readily granted. Some pretty views on the mill stream also will not be overlooked by the observant photographer. An afternoon lighting will suit the mill best, and a long exposure will be required. I find, on referring to my note-book, that I gave forty-five seconds at five o'clock in good diffused light with the *f/22* stop of a French wide-angle lens. Dunster boasts a good old English hostelry, the “Luttrell Arms,” in one of the rooms of which is an Elizabethan mantelpiece which is well worthy of a plate.

Those who are fond of ruins will, of course, not leave Minehead without paying a visit to Cleeve Abbey. It is distant from Minehead about six miles, but the best plan is to take train to Washford Station. The remains are in a fair state of preservation, and will afford several interesting photographs; each person visiting the abbey is charged 1s. for admission, but no charge is made for the privilege of using a camera.



The Old Mill, near Porlock.

Our excursions, so far, have been made in an easterly direction from Minehead, but the finest natural scenery will be found to the westward. From Minehead to Porlock is a distance of about seven miles, and those who are lazily inclined may take the local 'bus (fare 1s. 6d.) or a seat on the Lynton coach, but the best plan for the photographer is to walk the entire distance, taking on his way, by making a short detour, the pretty little village of Selworthy, with its charming thatched cottages. Minute details as to point of view, etc., are unnecessary; go where one may, a picture presents itself. The study selected, however, may possibly be improved by inducing the aged occupants of the cottage to stand or sit in the quaint porch and so impart an additional interest to the view. Quitting Selworthy, a short walk down one of the leafiest of Somerset lanes brings us to Holnicot, another village eminently typical of the county, and upon which the reader is almost sure to expose a plate. About a mile from here the road crosses a stream, up which to the left one of the prettiest old water mills imaginable is to be found (see illustration). The stream, the ivy-covered mill, the old moss-grown wheel, the road winding round in a graceful curve, the masses of foliage with which the whole is surrounded, makes a picture seldom to be met with and rarely surpassed. It is with a feeling somewhat akin to magnanimity that the writer has revealed this favoured spot to the readers of the AMATEUR PHOTOGRAPHER, for although so close to the high road, few people seem to be aware of its existence, and scores of photographers pass it by (as, indeed, did he on the occasion of his first visit to the locality) unnoticed and unseen.

Porlock is, or rather was until quite recently, one of the most unsophisticated and rural villages in England. Four years ago there was scarcely a yard of new bricks and mortar in the place; last year (1890), however, the demon of "improvement" had laid his scheming fingers upon the primitive village and caused a staring red-brick erection, yclept "Hotel," to rear its assertive ugliness over the quaint thatched cottages of sleepy old Porlock. Those, therefore, who would see the place before its final destruction (of course, from a picturesque and not a utilitarian point of view) should not delay their visit, or, perchance, the dear old "Ship Inn" will not be in existence to receive and charm them. It will be found impossible to do justice to Porlock and its neighbourhood in the short limits of a day's excursion, and, if possible, a few days' stay should be made either at the aforesaid "Ship" or lower down at Porlock Weir, where there is a good hotel. Being essentially an agricultural district, opportunities for securing scenes of farming life and industry abound, and many fine genre pictures may easily be secured. Porlock, too, is the centre of stag-hunting, meets taking place frequently during the season. Quick plates, however, are necessary for this kind of work, and a good light is essential. Bossington is a delightfully situated village of the typical Somerset type, very much frequented by artists, about two miles from Porlock, at the foot of the hill known as Bossington Beacon. Old subscribers to the AMATEUR PHOTOGRAPHER may recollect that some few years ago a competition was won by a view of Bossington village, which was reproduced and entitled "A Somersetshire Village." A word of caution as to exposing and developing negatives in which the characteristic cottages of the district form a prominent feature, may not be thrown away. The "wherefore" of this caution lies in the fact that the cottage walls are made glaringly white by the far too liberal application of the whitewash brush. It becomes, therefore, necessary to give a full exposure, and to considerably reduce the amount of pyro in the developer in order to avoid hardness in the negatives. There is a capital dark-room at Minehead for the use of strangers at Mr. Evans' studio, fee 6d., and an amateur resident will, upon application through the Editor, allow visitors to use his dark-room for changing plates. There is no photographer and no dark-room at Porlock.

Scotland.—A correspondent writes:—"If I am not too late, may I suggest a most beautiful excursion for a photographer in Scotland? Go by rail or steamer to Oban; thence by steamer to Salen, Loch-Sunart. Here stay the night. Walk (starting early, if fine for work) nine miles to Strontian. At Strontian is a good hotel. Salen Inn is comfortable too, and there are dozens of lovely views to be had in the neighbourhood. Shiel Bridge Inn is only some four miles from Salen, and there are at least eight splendid views to be had close to Shiel Bridge. The Resipol burn, running down by a farmhouse called Resipol, two and a half miles from Salen, towards Strontian, is worth walking up with a camera. There are splendid gorges and waterfalls in it."

"Amateur Photographer" Dark-Rooms, 1891.

THE "DARK-ROOMS" kindly placed at our service for the use of amateur photographers are classed as follows:—

a Amateur
h Hotel

d Dealer or professional.
s Photographic society.

Letters of Introduction, Three Penny Stamps.

a d (2) Aberdeen	h Colnbrook	
d Aberystwith	h Congleton	
d Addingham, Yorks*	d Colwyn Bay	
d Amsterdam	a Coniston	
d Andover, Hants*	d, s Crewe*	
s Ashton-under-Lyne	d Crewkerne*	
d Aylesbury, Bucks	d Croydon*	
d Banff, N.B.	a Dalton-in-Furness	
d Barmouth, N. Wales	d Darlington	
a Barnsley*	d, h Dartmouth	
d Barnstaple	d Deal*	
d, s Bath	d Derby	
h Beaconsfield	a Devizes*	
a Bedford	d Devonport	
d, s Belfast	h Dingwall, N.B.	
d Belper	a Doncaster	
d Bergen, Norway	a, d (2), h (2) Douglas, Isle of Man	
d Berlin	d Dover	
d Bettws-y-Coed	d Dresden, Germany	
h Bex, Switzerland	d, h Dublin	
d Bexhill-on-Sea*	h Dunblane, N.B.	
d Birchington-on-Sea*	d, s Dundee	
a, d, s Birmingham	a Dungarvan, co. Waterford	
d Blackburn, Lancs	a Duns*	
d Blackheath	d Durham*	
h Blakney, nr. Severn Bridge		
h Bodiam	d Eastbourne	
d Bodmin	d East Molesey, Surrey	
d Bolton	s East Southsea	
h Bonar Bridge	h Ebbw Vale	
d Boro' Bridge, Yorks	d Edinburgh	
d Bournemouth	s Egremont	
d Bournemouth, West	h Ennistymon, co. Clare	
d Bradford	a Enfield Town*	
d Bramley, near Leeds	d Eton	
d, h Brechin, N.B.*	a, d Evesham	
h Bridge, near Canterbury	d Exeter	
d Bridlington Quay		
h Brigg, Yorks	s Falkirk	
d Brighton, Hove	d Falmouth*	
d, h Brighton	d Faversham	
d Bristol	d Felixstowe*	
h Broadway, Worcester	d Filey	
d Bromley, Kent	d Finchley	
h Brough, Westmoreland	d Fleet	
d Burnley*	h Fochabers, N.B.	
s Burslem	d Folkestone	
a Cadiz, Spain*	a Four Ashes, nr. Stourbridge*	
h Camborne	a Frodsham	
d, h Cambridge		
d Cardiff	a Galashiels, N.B.	
d Carnarvon*	d Galway	
h Capel-Curig, N. Wales	a, d Genoa	
a Chalfont St. Peter, Mid.	h Giant's Causeway, Ireland	
d Cheltenham	d (2) s Glasgow	
d Chepstow	s Glenalmond, N.B. (nr. Perth)	
d Chester	h Glenarm, Belfast	
a Chesterfield	d Gloucester	
a Chipping Sodbury	d Gorleston	
d Christchurch	a Goring-on-Thames	
a Cinderford	a Gravesend	
d, h Cirencester	d Great Yarmouth	
d Clacton-on-Sea		
s Cleckheaton	a Halifax	
d Clevedon*	d Handsworth*	
d Clifton	d Hanley	
a Clitheroe	d Harrogate	
d Colchester	d, h Hastings	
	s Havant	

NOTE.—At the time of going to press we have not received signed authority for the use of "Dark-rooms" marked * but they were all placed at our disposal last year, and are doubtless available.—Ed. AM: PHOT.

d Hereford	a Newport, Pembroke
d Hexham	a Niton, Isle of Wight
h Holbeach	d Norwich
a, d Hull	d Nottingham
	a Northallerton*
a, d, h Ilfracombe	
d Inverness	s a Oldham
d, s Ipswich	a, d Oxford
d Jarrow	h Paignton
d, h Jersey	h Paisley, N.B.
	d Penrith
d, s Keighley	d Pershore
h Kempston	a Perth*
s Kendal	a Poole*
a Kingstown, Dublin	h Port Erin, Isle of Man
a Knutsford	d (2) Preston
	h Prince's Risboro'
d, h Lancaster	d Ramsgate
d Larne	d Reading
d (2) Leamington	h Redditch
d Lechlade	d Rhayader
h Ledbury	d Richmond, Surrey
a, d Leeds	a Ringwood, Hants
a, d Leicester	d Rochdale
d Leek, Staffs	a Rodley, near Leeds
a Lenzie, N.B.	d Romford
d Leytonstone, Essex	d Royston
d Lincoln	d Ryde, Isle of Wight
d, s Liverpool	
h Lizard, Mullion	a St. Agnes
d Llandudno*	d St. Andrews, N.B.
s Llanelly	h St. Asaph
d Llanidloes*	d St. Bees
d London, Aldersgate, E.C.	a St. Helens*
d Borough, S.E.*	d St. Heliers
d (2) Charing Cross Road, W.C.	a St. Ives, Hunts*
d Charterhouse Sq., E.C.	h St. Mellons
d Cheapside	d St. Monans, N.B.
a Chelsea, S.W.	h St. Neots
d Clapham Junction	d Sandgate, near Folkestone
d Fenchurch Street, E.C.*	d Sandown, Isle of Wight
d Fleet Street, E.C.*	a, d Scarborough
d Gracechurch Street, E.C.	h Seddlescomb, near Battle
d Hackney, N.E.	a Shaftesbury
d High Holborn	d Shanklin, Isle of Wight
d London Bridge, S.E.*	d (2), s Sheffield
d Ludgate Hill, E.C.	h Shepton Mallet
d New Cross, S.E.*	d Shrewsbury
d Peckham, S.E.	h Sleaford
d South Norwood, S.E.	d (2), h Southampton
d Walworth Road, S.E.*	h, d Southend-on-Sea
a Long Eaton	a, d Southport
h Long Melford	a, s Southsea
d Loughborough*	d Southwell
a, d Louth	a Stamford
d Lowestoft	a Steyning
a Ludlow	d Stockton-on-Tees
d Lynton and Lymouth	a Stoke-on-Trent
d Lynn*	a Stony Stratford
a Lythe, Whitby	a, d Stourbridge
	d, h Stratford-on-Avon
h Macroom, N.B., co. Cork	d Stroud
a Madeley, Salop	h Sudbury, Suffolk
d Maidenhead	d Sunderland
a Mainz, Germany*	h Sutton Bridge
d Manchester*	h Sutton
h Mallow, co. Cork	d Swindon
a Malta*	h Symond's Yat, near Ross
d Malvern	
d Mansfield	d Taunton
d (2) Margate	a Tavistock*
d Marsden, near Huddersfield	d Teignmouth
h Merthyr Tydfil	a Thornton Dale, nr. Pickering
d Merton	h Thorpe
d Middlesbrough	h Tintern Abbey
d (2) Milan	d Todmorden
h Monmouth	d Torquay
d Montrose, N.B.	h Tring
a Mountsorrel	d Tunbridge Wells
a Mumbles, near Swansea	a, d Tynemouth
d Newark, Notts	s Uttoxeter
d Newcastle-on-Tyne	
d Newport, Mon.	

a Ventnor	d Whitby
a Vienna	d Wimbledon
h Wadebridge	d Winchester
d Wakefield	h Wrexham
h Warwick	d, h Windsor and Eton
d Waterford	d Wisbech
d Watford	d Wolsingham
d Wath-on-Dearne	a Wolverhampton*
a Wellington, Salop	a Worcester
d, s West Hartlepool	d, h Worthing
h Westgate-on-Sea	a Yarm
d Weston-super-Mare	d Yeovil*
h Wetwang, York	a, d York
d Weymouth	d Youghal

APPLICATIONS for letters of introduction must be accompanied by **three penny stamps**. Full particulars are given as to charges (if any); plates, chemicals, etc., kept in stock by dealers; terms for temporary membership of societies, etc., etc.

THE OWNER of Dark-Room will be advised by same post as the applicant. In order to prevent delay, all applications should be addressed to the Editor, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C., and *plainly* endorsed "Dark-Rooms."

CONTINENTAL DARK-ROOMS.—Information can be supplied respecting many Dark-Rooms on the Continent, and addresses given of firms who stock photographic materials.

"AMATEUR PHOTOGRAPHER"

Ladies' Second Photographic Competition.

PHOTOGRAPHS have been received from the following:—

1. COLVILL, MRS. AGNES D. (Shrewsbury).—Caught; On the Severn; Fragments; After Sunset; A Wayside Pool; A Shropshire Village; His First Tricycle; From the Training Home (8).
2. CLARKE, MRS. S. F. (Louth).—Grannie's First Lesson; Lilac and Lilies; Bad News; Playing the Ladies; "Si vous m'Aimez;" Ophelia; Lady Macbeth; Portia (8).
3. WATSON, MARGARET (Florence).—Ponte alle Grazie; A Tuscan Lane; A Tuscan Church; The Gate Tower; The Abbots' Garden; The Monastery Gate; The Monks' Oxen; Roman Temple, Tivoli.
4. BURNS, AGNES CAROLINE (Wemyss Bay).—The "Caper-cailzie;" Bridge at Carradale; Two Little Sailors; "Me Want to Paddle" (4).
5. DAVIES, C. VAUGHAN (Milford Haven).—A Shady Nook; Amateur Carpenters; Leyn Aubrey Salmon; Interior of Oystermouth Castle; Where the Weary are at Rest; Gathering Seabirds' Eggs (6).
6. BOORE, ADA S. (Surrey).—Greensted Church; Shepperton Ferry; Near Walton Bridge; Off Folkestone; In Hertfordshire; A Cassiobury Park Lodge; An Australian Cousin; Sisters (8).
7. WARD, M. P. (E. Dereham).—Bodiam Castle (2); Pond, Hawkhurst; Lane in Kent; White's Lane; Old Farm; On the Way; Ferry (8).
8. WARD, F. O. (E. Dereham).—High Street, Guildford; Mill Mead; The Weir; On the Wey; St. Catherine's Hill; Water Mill; Farnham Church; In the Wood (8).
9. WARD, MRS. MARY T. (E. Dereham).—Castleair Ruin; Bilney Pond, January, 1891; Starting for the North Sea; Elmham Village (2); St. Catherine's Ferry; St. Catherine's Hill (8).
10. HIGHNETT, LOUIE N. (Chester).—In the Trossachs; The Pass of Melford; A Shropshire Lane; Milking Time; Swinging on the Gate; The Serpentine, Eaton Hall; The Thames; On the Ouse (8).
11. HALFORD, MRS. ROSAMOND (Wooperton).—Dolseran Hall; Haddon Hall; Taymount House; The Linn of Campsie; Rumbling Bridge; Clock Tower, Roddam Hall; Pond, Roddam Hall (7).
12. STOPFORD, LADY ELEANOR (Gorey).—Before the Storm; After the Storm; Still Waters; Resting (4).
13. GRACE, NELLY M. (St. Andrew's).—Harbour, St. Andrews (2); Snow Scene, Dresden; Old Bridge, Dalmally; From

- Brow Island; Blairgour Falls; A Highland Minister; Waterfall (8).
14. COLE, MRS. MARGARET (Lewes).—Our Dining Room; At Rest; Gateway, Lewes Castle; The Barbican; Old Tower, Rye; Swanbourne Lake; The Cut Thro' the Wood; Old Town, Interlachen (8).
15. HARDMAN, FRANCES A. DE R. (Reigate).—Juliet; Kurdish Costume; Raschid and Selim; Baalbec; Nazareth; In Syria; The Trysting Place; Theo (8).
16. BULWER, DORA E. and AGNES (Rome).—Parham Old Hall; Lake, with Reflections; Great Sugarloaf; Glade; Ruins on Palatine; Temple of Antoninus and Faustina; Water Tower; Hawley Mill (8).
17. BIRD, MRS. E. (Kington).—Old Tree; Huntingdon Church; The Chapel, Ludlow; Inn, Radnor Forest; View on River Arrow; Ramonie (6).
18. ANNESLEY, EFFIE (Pau).—A Gipsy Van, Pau; A Fisherman's Hut, Biarritz; A Farm Gate, Pau; The Gave, Pau; A Street in Pau; A Gateway; The Sea and Rocks, Biarritz; Low Tide (8).
19. BOWLES, MRS. HENRY (London).—The Old Forge; A Good Story; Master Dickey; Old Street in Whitby (4).
20. JOHNSON, ANNIE (Winchester).—Winchester College; On the Itchen; Lock (2); Watermouth Cave; Dog and Duck; Freshwater (7).
21. WILSON, MRS. (Kendal).—A Swiss Village; Deep Sea Trawlers; A Helping Hand; Cloudland; A Glowing Day; North Country Cottages; A Bit of Westmoreland Scenery; Reading a Yarn at Sea (8).
22. BECK, HANNAH (London).—Honister Pass; Lake George, New York; Styhead Pass; Watendlath Farm; Making Jam; Sunday at Home; Listening; Pets (8).
23. POWNALL, FRANCES M. (Twickenham).—Fish Court, Hampton Court; Lion Gate; Medmenham Abbey; Our Gardener's Daughter; Diana Fountain; Printing; Laddie.
24. CLEASBY, MRS. EDITH A. (Penoyre).—Tyfry Farm—Pack Bridge; Solitude; A Summer's Day; Oak Struck by Lightning (5).
25. POLLARD, MRS. M. M. (Cheltenham).—Tigers from Life; Defeated; My Horse; Woodcart; Friends in Council; A Bit on the Chilt; Mirrored in the Lake; My Drawing-room (8).
26. WHITMORE, ETHEL A. M. (Essex).—Ripples; Not a Cloud in the Sky; Slow but Sure; Truly Scotch; Reflection; In Position to be Photographed; Hot Mutton; Calm and Still (8).
27. BALLARD, SUSAN (Redhill).—Maud; Illustration of Rossetti's Poems; A little Gossip; Sunny Days; A Drink by the Way; Reeds and Meadow Grasses; Old Letters; Portrait.
28. DUNNE, M. J. (Trim).—Liscarton Castle (2); Dunlough; King John's Castle; Tennis; Dumpling; Harrogate (7).

29. GRAY, ALICE H. (Anerley).—Off Ramsgate; Fishing Smacks in Harbour; The Thames; On the Stour; Ruins at Canterbury; King's School (6).
30. DOUGLAS, — (Perth).—Stalheim Hotel; Stave Kirche; Fantoft; The Lotofos; The Tvindefos; On the Sunniva; Vossevangen (6).

Societies' Meetings.

East London.—At the ordinary meeting held on the 17th inst., Mr. E. Stone, Vice-President, in the chair, Mr. G. S. Pasco, A.P.S., gave a demonstration on the "New Kallitype Printing and Developing." After showing prints of various exposures, he proceeded to develop them in the different solutions, producing sepia, black, and purple; the result being highly satisfactory. After a long discussion *re* the new process, the meeting was brought to a close.

Faversham.—The August meeting of this society was held on the 18th inst. After the general business had been transacted Mr. W. C. Stunt delivered a lecture entitled "How to Take a Photograph," which proved most interesting and thoroughly practical. A short discussion followed, in which most of the members joined.

Lewisham.—At the meeting on the 21st inst., M. A. H. Miles, Vice-President, in the chair, the discussion on "Development" brought several queries from members, and as it was impossible to answer all, without practical demonstration, five gentlemen have promised to develop four different makes of plates and one film at the next meeting, on September 4th, so as to show beginners how far it is advisable to carry development. In answer to a question on intensification, the Secretary said that the reason why negatives were often stained was through insufficient fixing; he recommended that, to make quite sure, the negative, after it is considered fixed, should be placed in a fresh hypo bath, and, in preference to a very prolonged washing, advised that the bi-chloride of mercury should be acidified with either muriatic or sulphuric acid. Two members having brought plates showing halation, they were advised to use backed, ground-glass, or thickly-coated plates, or, as has lately been recommended, to have the emulsion spread on green glass, as it is said not only to entirely prevent halation, but also improve the printing quality. The paper read by Mr. Eastwood, on "Exposure," at one of the recent meetings, still continues to be discussed, the majority of members condemning the use of any of the actinometers at present in the market, and it is their general opinion that the only way in which an actinometer could be really practically correct would be one to gauge the actinic of the image thrown on the screen.

Spenn Valley.—Dr. Farrow (President) presided over the August meeting of this society, at which Mr. A. H. Knowles and Mr. J. Bromhill made interesting communications on a new emulsion for printing-out paper, and a new method of backing plates.

Sydenham.—An ordinary meeting was held at the headquarters on the 18th inst., the President in the chair. Work done at the last Saturday's outing was the subject under discussion. Some artistic pictures were shown, and also some very good instantaneous work. The following gentlemen were elected to serve on the Committee of the forthcoming annual exhibition: Messrs. G. Austin, Chapman, Gray, Piggott, and Zimmer.

To Correspondents.

All communications for these columns are to be addressed to **The Editor, "Amateur Photographer," 1, Creed Lane, Ludgate Hill, London, E.C.**

RULES.

1. Write clearly and distinctly on one side of the paper only.
2. Write each Query or Answer on a separate sheet of paper.
3. Write the name and address legibly on the back of each communication, and sign all Queries and Answers with name or *nom de plume*.
4. All matters for these columns MUST be received by TUESDAY MORNING'S POST.
5. The Editor does not undertake to answer questions by post.
6. In answering Queries, correspondents are requested to mention, in every instance, the number and full title of the query referred to.

QUERIES.

4964. **Aluminium.**—Where can I procure aluminium or aluminium bronze in sheets, flat rods, and round rods; and where can I get castings done in aluminium from home-made patterns or rough castings, mainly of camera fittings from stock patterns?—QUADRAGESIMUS.

4965. **Hastings.**—Can any brother amateur give any suggestions for views at Hastings and country round?—VIEWFINDER.

4966. **Penzance.**—When in Cornwall I foolishly packed my exposed plates between sheets of ordinary newspaper, the result being that when developing several negatives showed letters which are not seen before development, and which are transparent. Can any one tell me how to remove them and the cause?—LOXBRIDGIAN.

4967. **Prints.**—Being only a beginner I get my skies very dark in my prints. I shall be glad if some one will tell me where the fault is and how to get a nice light sky in prints.—N. E. R.

4968. **Thin Negatives.**—I get many of my negatives too thin to print from. What is the cause and remedy?—N. E. R.

4969. **Hand-Camera.**—Can any reader recommend either Lancaster's Omigraph or Griffiths' Guinea hand-camera? Which would be the most suitable to buy? Any information would greatly oblige.—A. H. H.

4970. **Quadrant Hand-Camera.**—Will some amateur who has used the Quadrant give his opinion of it? Is the changing mechanism reliable?—EARNEST.

4971. **Enlarging.**—Will any reader kindly inform

me if it is possible to enlarge by lamplight with Lancaster's quarter-plate Instantograph lens; also if a 4 in. condenser is large enough for enlarging from quarter-plate or what advantage should I gain by obtaining a larger one?—H. T. NEWTON.

4972. **Circular Plates of Stirn's Secret Camera.**

—I am going to Canada in about a month's time, and shall be much obliged if any amateur will tell me if I can get plates for the above-named camera out there.

—N. B. GRESLEY.

4973. **Toning.**—I have used the bicarbonate of soda toning bath on different occasions, viz.:

Chloride of gold	1 gr.
Bicarbonate of soda	5 "
Water (warm)	12 oz.

On inserting prints in hypo they turn red, and in drying assume a dark red or dirty brown tone, which clings to them when quite dry.—ZULU.

4974. **Isle of Man.**—I shall be spending the last fortnight in September in Douglas (Isle of Man), and shall be glad of any information as to good places to photograph, best time of day for them, with exposure for that time of year. Any hints will greatly oblige.—H. G. MELDREUM.

4975. **Enamel Collodion.**—Would any reader oblige with formulae for enamel collodion; also directions for preparing the cotton wool used in making it?—AMATEUR.

4976. **Ventilation of Dark-Room.**—I have a small outhouse fitted up as a dark-room, and I find it rather damp, and, when using paraffin lamp, it gets very close and stuffy. Can any one help me to put matters in a more healthy condition?—AMATEUR.

4977. **Enlarging Apparatus.**—Can any one give

me directions for making daylight enlarging apparatus for outdoor use? I have no room that could be converted into enlarging room. I wish to enlarge up to 10 by 8 or 12 by 10.—AMATRUR.

4978. **Norden Flap Shutter.**—Can any one who has had practical experience with the Norden flap shutter say if it has proved satisfactory; and, in particular, whether, when giving hand exposures by milled head, there is any danger of vibration?—FLAP.

4979. **Devonport.**—Will any one please tell me of anything worth photographing in Devonport or Plymouth? My camera is a Lancaster half-plate instantograph, and I wish to use its shutter. Which plates would be best to use, and what exposure would be necessary? Any hints will greatly oblige.—AMATRUR.

4980. **Mountant.**—Will one of your readers oblige me with particulars of how to make a good mountant with gum arabic?—KALOB SEELIG.

4981. **Frames for Bromide Opals.**—Can any reader tell me where to procure one or two cheap frames or mounts of some kind to cover the corners and unacted upon edges, or how to make a large vignette to cut out the above mentioned edges, so that the opals can be rested on stands without frames? I use Ilford quarter-plate bromide opals.—SCOT.

4982. **Hinton's Combined Toning and Fixing Bath.**—Can any reader recommend or give me his experience of this solution?—ACID.

4983. **Dark-Room Lamp.**—I will be much obliged if some one will kindly say how to make a portable dark-room lamp suitable for taking when on holiday, and going into small space? Thanking "Sardonix" for former reply.—ANOTHER BEGINNER.

4984. **Dead Black.**—Will someone kindly give recipe for a dead black wash, to apply to wood or metal?—ANOTHER BEGINNER.

4985. **Adhesive Mounts.**—Can any reader kindly tell me how these are made, as I am informed the manufacture commercially has been discontinued?—H. B.

4986. **Double Albumenised and Sensitised Paper.**—With reference to my query No. 4980, I shall be much obliged to either "Caillon" or "Pen" if they could inform me if there is any special make of paper which is used for making double albumenised sensitised paper, also which is the best coloured glass to use (yellow or red) for your dark-room? I think by what you say that it is rather an awkward job to get, as you say, good results.—W. H. ELLIS.

4987. **Photographic Portfolio Club.**—A lady is anxious to join a circulating photograph portfolio club, within reasonable postal communication of Perth, she being twelve miles from that town.—AUBURN.

4988. **Dry Plates.**—I have several packets of plates that have been in stock a considerable time. I give them double exposure and all times from 8 to 20 sec. With pyro ammonia it takes half-hour at least to develop, and then get such a thin negative hardly a picture to be seen by transmitted light, and yet when light reflected upon a good positive appears full of detail. Can any brother amateur give me information; would any other developer do?—OLD SUBSCRIBER.

4989. **Exposure.**—Will some reader kindly inform me of exposures necessary for Mediterranean, Egypt, and India, using Wornald's tables of exposures. If exposure in England be 1 sec., what would it be in above-named countries. I suppose that in Egypt one would only require to use the tables for March to August?—E. P.

QUERIES UNANSWERED.

July 17.—Nos. 4863, 4865, 4866, 4868, 4871.
 „ 31.—Nos. 4900, 4907, 4909.
 Aug. 7.—Nos. 4923, 4934.
 „ 14.—Nos. 4947, 4950.
 „ 21.—No. 4952.

ANSWERS.

4904. **Exposure.**—In reply to "Hibernicus," I am afraid the query he has put before the readers of the AMATEUR PHOTOGRAPHER is one which will not be answered in a hurry by the readers, but more likely by Mr. Wornald himself, which I think he has done already. You first of all state that "on page 39 Sensitometer Nos. 18 and 19 indicate '9 and 12 times, and on page 41 'are' 30 times." Then two words want explaining, viz., the word "indicate" is put in Mr. Wornald's exposure note-book because it is the word the makers of the plates use, and the "Nos." they put on their boxes; but the other word "are" is, I take it, Mr. Wornald's own expression, he having tried the plates himself, and he finds them different to the makers, so he says "are" 30 times the rapidity of wet plates, leaving you to choose for yourself which to use.—W. H. ELLIS.

4905. **Sheaths for Magazine Camera.**—I should advise J. E. Thorburn to try a thin coat of the best varnish on his sheaths, not forgetting to rub all the rust off the sheaths before applying the varnish.—W. H. ELLIS.

4912. **Bromide Enlargements.**—If W. F. Frost will more fully explain his query I will, I think, be able to give him all the information he may require.—W. H. ELLIS.

4921. **Fixing Bath.**—In answer to "Gringo," the bisulphite does neither the prints nor the negatives

any harm, but it certainly does them no good. It is, I think, by far the best to use the hypo only.—W. H. ELLIS.

4948. **Burnishing Prints.**—Whenever you want to mount an enamelled print you should coat the back with your mountant, apply the mount, and squeegee vigorously, all before you strip from the polished glass. When dry, the mount and print will come away in a piece, and the glass will be uninjured. Aristotype will give excellent results thus, or if squeegeed to ground-glass, gives matt-surface effects.—PEN.

4953. **Light for Lantern Slide Making.**—"Carbonate" will, I think, find an oil lamp the best, burning the best oil with a good wick.—W. H. ELLIS.

4953. **Light for Lantern Slide Making.**—Why not use daylight? If you use magnesium or lamp light (the former would be preferable), you must put a sheet of ground-glass between the light and the negative, otherwise you will have an image of the flame on your slide.—PEN.

4954. **Enlarging Camera.**—If "Carbonate" wants to make lantern slides from whole-plate negatives he must have a lantern slide camera to get the best results.—W. H. ELLIS.

4954. **Enlarging Camera.**—I like Lancaster's Multum-in-Parvo very much. You would find it a good instrument. N.B.—If you get this camera, don't bore the front till you have fully determined whether your lens is suitable for enlarging, i.e., whether the focal length may not be too great for your camera to rack out. You can easily use the Multum-in-Parvo for reducing by getting carriers for the dark-slides.—PEN.

4955. **Eastman's Bromide Paper.**—Try rather longer exposure.—PEN.

4955. **Eastman's Bromide Paper.**—I should think "W. H." exposed his bromide paper too long. Does he use a lamp, or daylight? The former is the best. I have found hydroquinone too fierce for bromides. Why does not "W. H." use the ferrous oxalate developer? It is the thing. Your prints are stained grey before the shadows are up.—COPTIC.

4955. **Eastman's Bromide Paper.**—I expect "H. W.," when developing his bromide paper, had the hydroquinone developer too weak by having too much water. I generally use Lockyer's hydroquinone developer, which always brings out the distance to my satisfaction without carrying the development so far as to lose all detail in the foreground. The grey tint is obtained in the fixing bath. Always develop your bromide paper rather more than you require it, as it loses a great lot of colour while in the fixing.—W. H. ELLIS.

4956. **Devonshire.**—Clovelly is a splendid place to obtain good photographic studies of fisherfolk and boating. I should recommend Ilfracombe for yachting, which is within easy distance of Clovelly by road or rail, and surrounded by a charming country for photography.—KENDAL.

4957. **Density.**—Pour some methylated spirit on the negative, and rub it gently with a tuft of cotton wool until all the varnish is dissolved. Do not leave the negative in the spirit longer than necessary, as it will reduce it slightly.—CAILLON.

4957. **Density.**—You can get the varnish off your negative by soaking it in methylated spirits. You would probably get the density you require by taking (for a half-plate), say, 8 oz. of No. 2 and 7 of No. 2, and about 1 oz. of water, and give the plate plenty of time to develop. This is how I always use it, and I never have cause to complain.—PEN.

4957. **Density.**—If your negatives are good and full of detail, and moderately dense, put a sheet of ground-glass or tissue paper in front of them, and print in diffused light. A thin coating of ruddy varnish on the back would also strengthen it. To remove the varnish, place the negative in methylated spirits with a few drops of ammonia added to it. Let it soak for five or ten minutes, then replace the spirit and ammonia with water and ammonia, and finally wash in plain water. The action of the solutions may be aided by gently rubbing the surface of the negative with a lump of cotton wool. The negative can then be intensified. Few negatives, however, are worth intensification if a passable print cannot be produced by the dodges in printing mentioned above. You will find instructions for intensification in any photographic hand-book.—CARBONATE.

4957. **Density.**—Soak the negative in methylated spirit to remove the varnish (if necessary, warm spirit). Wash well, and soak for three or four minutes in Mercuric chloride (very poisonous) . . . 1 oz.
 Bromide of potassium 100 gr.
 Water 10 oz.

until the negative is of a white colour. Wash thoroughly for a quarter of an hour or so, and then soak in a mixture of ammonia and water, strength from 1 or 2 drops to the ounce, up to 1 in 20, according to whether the negative is nearly up to the proper density or is very thin indeed. If the density is nearly correct, it is better to substitute a 10 per cent. solution of sodium sulphite for the ammonia, but this has not nearly so much effect. After either process, the negative should be again well washed.—PEN.

4958. **Density.**—In reply to "Revilo," the formulae described in his query seem to be correctly stated, and ought to give sufficient density. There are two faults which will agree with your query, viz. (1) when you developed the plate which you could not get sufficient density in, you either used stale developer or developer

which had been in the dish for some time before you started to develop it, and, of course, it was getting weaker every minute; or (2) the plate which you developed and which you could not get sufficient density in was under-exposed. I think there is a certain amount of luck attached to these developers with such a variety of chemicals, as I do not think one amateur photographer who makes up his own developer can say for certain, when he has finished weighing and measuring all the chemicals, that they are all perfectly correct. I generally use Lockyer's concentrated hydroquinone developer, which I can strongly recommend as being a most reliable developer for amateurs when developing plates, lantern slides, or bromide paper. Why not try a sample bottle, price 6d. 2.—W. H. ELLIS.

4958. **Density.**—Probably from one or more of three causes: (1) over-exposure, (2) under-development, (3) too much alkali to begin with. I should prefer formula 2 of half the strength mentioned. If you still fail, use carbonates in place of caustic alkalis.—PEN.

4958. **Density.**—I should fancy "Revilo's" trouble is caused by under-exposure or too weak a developer. He does not say what plates he uses. If they are Ilford his formula is too weak in hydroquinone. He should try

(A)			
Hydroquinone	..	..	80 gr.
Sodium sulphite	..	..	1 oz.
Pot. bromide	..	..	15 gr.
Water	..	..	10 oz.
(B)			
Sodium hydate	..	..	50 gr.
Water	..	..	10 oz.

Equal parts.—COPTIC.

4958. **Density.**—Your developer is much too weak in hydroquinone and bromide in proportion to the amount of alkali. You had better make up No. 1 solution as follows:—

Hydroquinone	..	..	80 gr.
Sodium sulphite	..	..	1 oz.
Citric acid	..	..	30 gr.
Potass. bromide	..	..	20 "
Water	..	..	10 oz.

For use, take equal parts of this and the alkali solution you give in your query. This is Thomas's formula, and a very good one for all makes of plates. In any case you should have as much hydroquinone as potash, if not more.—CARBONATE.

4959. **Combined Hydroquinone and Eikonogen Developer.**—Professor Burton, who has been experimenting largely in mixed developers, gives the following mixed eikonogen and hydroquinone developer, as the one he used:—

Hydroquinone	..	..	2 gr.
Sulphite of soda	..	..	6 "
Saturated solution eikonogen in 10 per cent. soda sulphite	..	..	100 minims.
Carbonate of soda	..	..	12 gr.
Water	..	..	1 oz.

He says that the density of a negative developed by this is about the same as hydroquinone alone, but that the negative produced by the mixed developers is far more harmonious and much fuller in detail than by hydroquinone. Development also is much quicker.—CARBONATE.

4960. **Aristotype Paper, How to Mount.**—Fully answered last week.—PEN.

4960. **Aristotype Paper, How to Mount.**—See answers to 4946 and 4948 in the AMATEUR PHOTOGRAPHER last week.—CAILLON.

4960. **Aristotype Paper, How to Mount.**—Would recommend Thomas's Aristo paste. In using this I have been able to mount without destroying glossy appearance.—LUD.

4960. **Aristotype Paper, How to Mount.**—If "Kendal" will use thin ivory card (similar to visiting cards) cut to size of print, about half an hour after squeegeeing on to glass paste the card with Hinton's Aristo paste, and squeegee down. When perfectly dry, strip and trim to size, and then mount with the paste again. I have tried all kinds of backing and mountants, and have failed to obtain the results obtained by use of above.—LUD.

4960. **Aristotype Paper, How to Mount.**—In reply to "Kendal," I think the best way to mount Aristotype paper is as follows: After squeegeeing the prints on glass, let them half dry, then get some well-made glue (the best; it would be all the better for straining through muslin), apply to the print, then well press on to this card, same size as print, known as best thin ivory, then leave until quite dry; then they will peel off without any trouble. Trim with a sharp knife, and mount on whatever you intend mounting it.—W. H. ELLIS.

4961. **Yellow Light and the Eyesight.**—In reply to "H. L.," the yellow light of the dark-room has no injurious effect upon the eyesight if you do not stop in the dark-room too long, and when coming out you do not come into a strong light at first.—W. H. ELLIS.

4962. **Exposure.**—You cannot photograph the light of the moon on the sea, as its light is not strong enough, but you can photograph the sun so that it will appear to be the moon. Turn your camera towards the sun, and give a very short exposure, so that only the high-lights on the ripples are exposed, and any shadows under-exposed. Suitable clouds add very much to the effect, and also a boat with sail up which throws a heavy shadow.—CAILLON.

EDITORIAL.

SPECIAL NOTICE.—We are very pleased to find that replies in this column are so much appreciated, but we should be very grateful if those requiring advice would send their letters to us BEFORE TUESDAY MORNING'S post if possible. The time occupied in replying in this column is very considerable, and owing to the often late receipt of letters, many matters have to be left over each week. This we much regret.—ED: AM: PHOT:

NOVICE.—(1) The camera was not held upright, otherwise fair. (2) Not quite sharp enough. (3) Under-printed and over-toned. (4) Wrongly developed, too much pyro used. Please do not send us any prints again with such inartistic masks, they spoil any picture. (5) Over-toned, otherwise all right.

F. W. WALTER.—Are the streaky lines in the direction of movement of card or across? If the first it is due to scratches; if the latter, due to stoppage in movement. Try rubbing dry Castile soap on prints. You can only obtain gloss by enamelling with collodion or else using encaustic paste.

E. L. WOOD.—If you mean the ground glass or focussing screen measures 15 by 10 in. you would require a 15 by 12 in. lens, best a rapid rectilinear or doublet of about 16 in. focus, which could be used for landscape or architecture. If you like to write and let us know about what price you want to pay, we will advise you further.

BEGINNER.—(1) Very much over-exposed and print fogged in developing. Did you use pyro or hydroquinone for this? (2) Under-exposed, and print dirty, either from insufficient washing or clearing. Let us see some more work presently.

FALCON.—You cannot do better than use an eikonogen developer, any of those we gave in a leader a few weeks back. You can use the same developer for Marion's as for the Ilford plates. The print would certainly have been improved by more careful focussing and the use of a smaller stop. The lens, we should say, had rather a curved field; we should also think the negative was too thin.

A. J. GARWOOD.—(1) Just misses being a picture, and is quite spoilt by the halation on right. (2) Here again you just miss perfection; the incongruous figures spoil this; try printing it in bromide. (3) Not good; these three negatives have been spoilt by errors in developing, you have used too much pyro, and consequently have got a little too much hardness and glitter. (4) Better results would have been obtained on bromide paper. (5) Ditto. (6 and 7) If you will print this on bromide so as to get some pure whites in it, it would stand a chance in our competitions; it was hardly necessary to mask off the left side of house. (8) Good.

H. PRICE.—(1) Good. (2) Poor; would have been improved by the use of a smaller stop. (3) Good. (4) Good. (5) Good. (6) Dirty. (7) Fair. (8) Poor and flat. (9) Over-exposed and flat. (10) Over-exposed and flat and dirty. Overnetter or Celerytype would suit these best; they might stand a chance in a competition, but this depends upon the other work sent in. (11) Good.

PHONO.—The stains are due to insufficient washing between treating with bleaching solution and ammonia; the negative had also been insufficiently washed after fixing.

J. A. T.—(1) Good. (2) Fair, too much hedge and road. (3) Fair. The slides are good but the subjects are not all pictures, but we see far worse in the competitions.

G. J. BARRY.—The house negative was smashed when received. The camera was not upright and the negative looks fogged and stained, partly due to insufficient washing before intensifying. The other negative appears to be wrongly developed, too much pyro and bromide being used so that the dress is too dense. As to the incongruity of a young lady in full evening dress being out in a wood, we need hardly speak; the subject has also moved. We should advise you to try this again as the subject is sufficiently charming to make a pretty picture.

CESTRIA.—Letter by post. Let us know what lens is in the camera.

AUGUST.—(1) This would have stood longer developing. (2) Ditto. (3) Ditto; this would make a charming little picture on Overnetter or Celerytype or slow bromide paper. (4) Is not fogged, but you have been using too much bromide and pyro, consequently got great contrasts; the young lady's face wants a little retouching or matt varnish on back of print and crayon. (5) Insufficiently developed; cover the printing frame with two thicknesses of tissue paper or else print slowly on Overnetter or Celerytype. (6) Out of focus. (7) Dog moved. Your faults seem in using too small a stop and under-developing, and using too much pyro in the developer. The lens, we should say, is a good one. Do not intensify but print under tissue paper or ground glass on gelatin-chloride paper. It is absolutely necessary to neutralise gold by adding about 20 gr. of bicarbonate of soda to every grain used. We shall be pleased to help you further if we can.

TRYING TO LEARN.—(1) No principal object of interest in this; it is well exposed and developed. (2) Fair. (3) Good. (4) Figure too high up, the nose should be about central in print, well lighted and a pleasing result otherwise. (5) Flat and poor, and shows signs of developer not having covered plate evenly. (6)

If retouched would be good; the vignetting does not improve it. (7) Fair. (8) Ditto. (9) Ditto. (10) Over-exposed, flat, and poor. (11) Good for an evening effect, wants some clouds though. (12) Under-exposed. (13) Flat and poor. Most of your prints and mounts are dirty.

W. F. G.—The instrument named in your letter is good and reliable, and the lens is as good as any landscape lens in the market.

A. W. COOK.—(1) The correct position would be at 2 in your diagram, but provided you get the image of both halves of your building exactly the same size, you might place the camera at 1 or 3; still, you will find adopting the plan you quote from last week's issue the easier. (2) See our leader this week on washing. (3) A plate showing 25 degs. W. is actually seven times more sensitive than one showing 18 degs. W.; this is theoretically correct with a theoretically correct sensitometer. We must confess we cannot reconcile the statement you quote.

NIKLE.—Photographs on glass on the "while you wait" system are obtained by means of the wet collodion process, which requires, like gelatine dry plates, experience. We should advise you to order from our publishers Jabez Hughes' "Principles and Practice of Wet Plate Photography."

VALOIS.—We are very sorry, but the holidays are the sole cause of the delays, but the prints are on the road. To unmount your photographs we should advise you to use hot water only; any chemical, the only one to use being acetic acid, would injure prints. Ticket will also be forwarded.

E. W. MALL.—Use the acid sulphate of sodium 1 gr. to every grain of pyro used, and add some also to the fixing bath. We prefer the soda developer. You need not make up a new bath, but neutralise some gold and add to the whole bath one hour before use; the bath will not stain the paper. You can reduce over-printed pictures by immersion in a very weak solution of bichromate of potash and hydrochloric acid, washing well and refixing.

CARTE.—The exposure and development of negative are about right; we prefer a single lens working at f/8 for portraiture. If you use one of the combinations of your R.R., the focus will be doubled, the aperture halved, and the exposure quadrupled. The tone of the print is not good; you were at fault to add gold and borax while toning; you should have warmed the bath. Do you neutralise the gold first? We have some experiments in hand on the subject of toning, and hope to publish same shortly.

L. GLAZIER.—The only thing you can do is to borrow a shorter focus lens. There is nothing else for you under the conditions named.

FERO-TYPE.—Your fault lies, we think, in over-exposure. We will be pleased to develop a plate for you. There is a little pamphlet on "The Practical Ferrotype," by H. Snowden Ward, which our publishers would send you for 10d. You would find it much easier to prepare your own plates by the wet collodion process and develop with an acid iron developer. Now, of course, you are using dry collodion.

PREMIER.—(1) The camera named is one of the best in the market, and we cannot recommend a better. (2) There is not the slightest doubt that something has to be paid for name; we place as follows—3 and 4 equal, then 1, 2, 7, 5, 6. You can rely upon either of the first two makers, whom we have placed equal, as turning out instruments equal to any in the market. If you want a large aperture then you might go in for a Zeiss apochromatic triplet, but these are more expensive. We are glad you find our paper of help, and shall be pleased at any time to help you.

J. CHAMBERLAIN.—A very beautiful photograph, we may possibly reproduce at a later date.

SCOTSMAN.—Will send you a complete list in a post or two: some of them are possibly out of print.

F. W. SHAW.—Your prints shall be criticised next week.

A. WOODALL.—If you buy "Experimental Photography" (Leaper), 1s. and "Dictionary of Photography" (Wall), 2s. 6d., you will have all that you require at present. Both these books may be had of our publishers.

W. H. ELLIS.—We have often published similar diagrams; there is a very good one on page xlix. in the "AMATEUR PHOTOGRAPHER'S ANNUAL," which cuts up without waste the whole sheet.

J. H. SWAINE.—Very sorry we cannot trace your enquiry re Penzance, possibly it was too late for insertion. Queries must be received by Tuesday to ensure insertion.

Sale and Exchange.

RULES.

CHARGE.—Twelve words or less for Fourpence.

Every additional three words, one penny. The name and address of the sender must be paid for. (A single figure, or group of figures undivided by letter, space, stop, or words, counts as one word; compound words count as two words.)

DEPOSITS.—The money for goods forwarded on approval may be deposited with the Publishers of the AMATEUR PHOTOGRAPHER, who will hold the amounts deposited until they are satisfied that the transaction has been completed to the satisfaction of buyer and seller.

COMMISSION.—A charge of 2½ per cent. will be deducted from all deposits whether a sale is effected or not. Minimum charge 1s.

PAYMENT.—All payments are to be by cheques or Postal Orders, made payable to Hazell, Watson, and Viney, Ltd., 1, Creed Lane, London, E.C.

REPORTING.—Apparatus may be sent to the EDITOR, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C., who will report upon the apparatus to the buyer for a minimum fee of 2s. 6d., or a commission of 2½ per cent., upon the sale price of the apparatus.

CARRIAGE must be paid on all apparatus sent for report, and they will be returned carriage forward.

ADVERTISEMENTS can be inserted under a number, the name and address being registered, and letters forwarded for a fee of 3d. to cover postage.

ADDRESS.—All advertisements (which can be received up to Wednesday morning, 9.0 a.m.) and other communications having reference to the "Sale and Exchange" column, must be addressed "Sale and Exchange, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C."

PAYMENTS should be made in Postal Orders or Postage Stamps.

Backgrounds.—Platted oil backgrounds, 8 ft. by 58 in., river scene, 6s.; boat, oar, and water piece, good condition, 10s., or exchange. — William Hare, Photographer, Sutton, Surrey.

Bicycle.—Safety, cushion tyres; £7 10s.; worth £14; balls throughout, must sell immediately—7, Dereham Road, Norwich.

Cameras, etc.—10 by 8 camera, bellows body, two slides, £2 15s.; also half camera, four slides, £2. — 7, Dereham Road, Norwich.

1891 quarter Special Instantograph, three slides, brass-bound, 3-fold stand, leather-bound case, all new and unused; cost £4; price £3. — Hansen, 126, Calabria Road, Highbury.

Camera, 12 by 10, Park's kinnear bellows, three double dark-slides, very good condition; £9 10s. — Johnson, 21, Pultney Gardens, Bath.

First-class new terrace camera, three slides; £4. — B., 1, Balfour Terrace, Mayes Road, Wood Green.

Cameras, Lenses, etc.—Fine camera, half-plate, three backs, 75s.; lens, Optimus 5 by 4, 21s. 6d. — Melrose Woolston, Southampton.

Two rare bargains. First-class whole-plate camera, two best mahogany double dark-slides, with Hockin's lens, only 85s.; half-plate camera, three double dark-slides, 3-fold tripod, cost 21s., only 72s. 6d. the lot; both cameras have every possible movement, and as new, approval; splendid old sliding tripod, cost 15s., only 10s. 6d., as new. — S. Dalby, 35, St. Thomas Street, Weymouth.

12 by 10 camera, double dark-slide, and lens; 30s. — Mills, 16, Bryntirion Street, Dowlais.

Hand-Cameras, etc.—Rouch's Eureka hand-camera; £5; perfect condition.—Dr. Winter, 4, The Birklands, Hilsa, Cosham, Kent.

Watson's Vaneek hand-camera, £7 7s.; Eastman's whole-plate roll-holder, £3; Dallmeyer's 10 by 8 rectilinear landscape lens, £6. — Dr. Winter, 4, The Birklands, Hilsa, Cosham.

Hand-camera, Fallowfield's, £5 5s.; Facile, complete, new, £4. — 208, Devonshire Road, Forest Hill, S.E.

No. 2 Kodak, perfect, cost £7; price, with film for 40 and extra roll of 60 exposures, £5. — Tresilian, 31, Lower Sackville Street, Dublin.

Abraham's Ideal hand-camera, in perfect condition; 3 guineas; specimen prints can be sent. — Duckworth, Orchardleigh, Frome.

Lancaster's Omnigraph detective, quite new; 18s. 6d.; specimen prints free. — M. Newhouse, 90, Victoria Terrace, Lancaster.

For sale, Griffiths' 2-guinea quarter-plate hand-camera, wood body, improved fitting, three dark-slides, lens, and instantaneous or time shutter, used once only; will take 20s. — Preston, South View, Sowerby Bridge.

New hand-camera, holds 12 quarter-plates, rectilinear lens, time and instantaneous shutter, finder; cost £4 4s.; sell 52s.—No. 193, AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.

The Rover quarter-plate hand-camera (Lancaster and Sons), fitted with rapid rectilinear lens, Iris diaphragm, leather case; Rover is quite new, just as received from the makers; price £3 10s. — J. E. Thornburn, Low Moor, Aspathria.

McKellen's 1891 automatic hand-camera, for twelve quarter-plates, with two finders, cost £7 7s., price £5; half-plate modern camera, all latest improvements, three double backs, £4; Kershaw's patent shutter, 3in. hood, 15s.; 2½ in. hood, 12s. 6d.—J. Bidale, 97, Medlock Street, Manchester.

Hand-camera for sale, 8½ in. by 6½ by 4½, with Wray's R.R. 5 in. lens and Swift's best single 7½ in. focus ditto, camera takes both 10 slides for plates or films, instantaneous shutter; price, one-third of cost.—Apply, Brown, care of Hinton and Co., 38, Bedford Street, Strand.

Lantern.—Lancaster's first quality enlarging lantern, 6 in. condensers, perfect condition, good as new; accept £4. — Apply, J. M., 262, Hawthorne Road, Bootle, Liverpool.

Lenses, etc.—Half-plate wide-angle by Lancaster, rotating stops; 20s., or offers.—Letters, E. S. Gedge, 1, Threadneedle Street, E.C.

The AMATEUR PHOTOGRAPHER

Telephone No 1645
Telegraphic Address: VINEY, LONDON
Office: 1, Creed Lane, Ludgate Hill, London, E.C.

No. 361. Vol. XIV.]

FRIDAY, SEPTEMBER 4, 1891.

[PRICE TWOPENCE.]

OUR VIEWS.

"To hold as 'twere the mirror up to nature,"—Shakespeare.

The Monday afternoon "At Home" is discontinued for the present, but will be resumed on Monday, the 7th of September.

OUR VIEWS.—Glasgow Exhibition—Coloured Photographs—A Postal Photograph Club—Little Lord Fauntleroy—Photographers' Benevolent Association—Am. Phot. 1891 Prize Lantern Slides.

LEADER.—The Brush as an Aid to Photography.

ILLUSTRATION.—"Waiting for a Nibble," by J. C. Oliver.

LETTERS.—A False Actinometric Theory (A. Watkins)—A New Lens (W. Wray)—Wanted, a Shutter (E. J. Wall)—Help a Poor Professional: a Deserving Case (A Reader and H. Snowden Ward).

ARTICLES.—Photographic Procedure (E. J. Wall)—Instantaneous Photography (W. J. Harrison)—How I Started a Successful Society—Paul Lange and Submarine Mining, illustrated—Toning after Fixing (M. Mercier).

HOLIDAY RESORTS.—North Devon and Somerset as a Field for Photography, illustrated (J. A. Hodges)—The Basingstoke Canal, the Thames, and Wey.

EXHIBITIONS.—Royal Cornwall Polytechnic Society's Photographic Exhibition, Falmouth—Glasgow International Photographic Society, First Notice.

SOCIETIES' MEETINGS.—Brechtin—Birmingham—Bournemouth—Faversham—Hackney—Jersey—Omaga.

EDITORIAL DEPARTMENT.—All Literary Contributions, Queries and Answers, Photographs for Competition or Criticism, Books or apparatus for Notice or Review are to be addressed to the EDITOR, AMATEUR PHOTOGRAPHER, 1, CREED LANE, LUDGATE HILL, LONDON, E.C. (All Communications should reach the Editor on Tuesday.)

TRADE ADVERTISEMENTS are received up to Tuesday morning.

TERMS OF SUBSCRIPTION—

UNITED KINGDOM.....	Six Months, 5s. 6d.....	Twelve Months, 10s. 10d.
POSTAL UNION.....	" " 6s. 6d.....	" " 13s. 0d.
OUT OF POSTAL UNION.....	" " 7s. 9d.....	" " 15s. 3d.

PUBLISHING DEPARTMENT.—All letters containing Subscriptions, Orders, Remittances, SALE AND EXCHANGE Advertisements, or other business matters for the AMATEUR PHOTOGRAPHER are to be addressed to the Publishers, HAZELL, WATSON, AND VINEY, LD., 1, CREED LANE, LUDGATE HILL, LONDON, E.C. (SALE AND EXCHANGE Advertisements, at the charge of Three Words for One Penny, can be received as late as WEDNESDAY MORNING.)

"Amateur Photographer" Monthly Lantern Slide Competition (Fifth).—"LANDSCAPE, SEASCAPE, AND RIVER SCENERY." Last day, SEPTEMBER 24TH. Two Slides to be sent in. Entry Forms, etc., on receipt of stamped envelope addressed to Editor, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C.

"Amateur Photographer" 1891 Lantern Slide Competition (Fourth Year).—Prizes: Gold, Silver, and Bronze Medals, and Certificates in each class. Competitors to enter only one class; every competitor to contribute ten slides, and a "lantern slide portrait" of him or her self.

CLASS I.—Landscape, Sea Pieces, and River Scenery, with or without figures.

CLASS II.—Portraiture and Figure Studies, to include in-door or out-door pictures.

CLASS III.—Architecture, Interior or Exterior.

CLASS IV.—The Fine Arts, which may include copies of Pictures, Engravings, Sculpture, Art Metal Work, China, Bric-a-Brac, etc.

NOTE.—Every Competitor must send descriptive Notes.

Past prize-winners will be awarded "Niece" or progressive medals, should they win a medal of the same value as that which they have been awarded in past Lantern Slide Competitions.

All slides must be received on or before the 30th September, 1891.

RULES, CONDITIONS, and ENTRY FORMS will be forwarded on receipt of stamped addressed envelope. The application should be endorsed, "LANTERN SLIDE COMPETITION," Editor, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C.

THE Glasgow International Photographic Exhibition, which has been promoted through the exertions of the committee and members of the Glasgow and West of Scotland Amateur Photographic Association, has been opened to the public this week. The association have had the very hearty support of the Glasgow Photographic Association, Paisley Photographic Society, Greenock Camera Club, Clydesdale Camera Club, and the Falkirk Photographic Society. From the very first no exertion has been wanting on the part of the Committee to gather together in the splendid rooms of the Institute of Fine Arts a representative exhibition of photography of present day, and we have sincere pleasure in congratulating them upon the result. We think that the Glasgow Exhibition stands first of any that we have attended; the work shown by Scotch exhibitors is of a very high standard, and in the list of awards, which we publish in another column, we note that they have at the hands of the judges met with a very considerable number of prizes. What we consider to be the prize, a special gold medal, is awarded to Mr. David R. Clark, for his picture "The Trysting Tree," which we are pleased to find was at a recent exhibition of the work of members of the association awarded the AMATEUR PHOTOGRAPHER Silver Medal. This award has been made over the heads of such a veteran as Mr. H. P. Robinson and so painstaking a worker as Mr. A. Horsley Hinton, who in the same class receives a special silver medal for the artistic excellence of his charming picture, "Where Swaying Reeds eternal Murmur make." The awards are in every case, we think, extremely just, and in such an exhibition the labour of judging is only equalled by that of the hanging committee; both have been done well, and reflect great credit upon the gentlemen who have given up so much time to the exhibitors and exhibition. We think that in Class 18 (Still Life, Flower Studies, etc.) the judges in withholding the prizes must have overlooked the very charming work of Mr. A. W. Gottlieb, who exhibits four beautiful studies—"The Luscious Grape," "The Thistle and the Rose," "The Lily," "The Flowers of the Clematis." And in the Flashlight the bronze medal is withheld, whereas the Countess Loredana shows the same pictures which gained her a "special gold medal" at Liverpool. A new worker appears for the first time in the Professional only class, W. M. Warneuke, and so good is his work that in Class 1, Portraits, he takes precedence of W. W. Winter, being awarded a silver against his bronze medal. Mr. Warneuke has turned his attention to landscape work, and in selection he is ahead of many professionals who go in for landscape

work. We understand that this gentleman has only been at photography about two years. It is quite impossible for us to pretend to review the exhibition; that will be done in future issues of the *AMATEUR PHOTOGRAPHER*. Those who can should visit the exhibition, and those who cannot should send a shilling to the Hon. Secretary for a catalogue, which is by far the best thing that has ever been done in exhibition catalogues. Two pictures alone, photogravures—one by Lafayette, of Her Majesty the Queen, and another by T. and R. Annan and Sons, of Professor Max Muller—are worth buying the book for.

The exhibition was formally opened on Tuesday by the Lord Provost, when there was a most distinguished company. The photographic Press was represented by the Editor of the *AMATEUR PHOTOGRAPHER* and the sub-editor of *Photography*. Some short speeches were made, which will be referred to in next week's journal.

MISS ATKINSON, of 1, Sillwood Terrace, Brighton, has favoured us with some specimens of her hand-coloured photographs, portraits, etc. We have always considered that "the coloured photograph" was a term synonymous with a daub, full of patches of crude and unreal colours, but we are now compelled to own our ignorance in this respect after a careful scrutiny of Miss Atkinson's work, which is extremely artistic, as one would expect it to be, emanating as it does from the hand of an artist of considerable local repute, and from one who for many years has held one of the leading positions as a miniature painter. Those of our readers who are desirous of seeing what can be done by an artist in the way of producing photographs in colours should communicate with the above-named artist, specimens of whose work we hope shortly to have on view at our offices.

A POSTAL PHOTOGRAPHIC CLUB has been established at Torquay. The rules are well framed, and we have no doubt Mr. G. D. Nickels, the Hon. Secretary, South Town Cottage, Upton Road, will gladly furnish particulars.

THE Woodburytype Company (now Messrs. Eyre and Spottiswoode) have just issued a very beautiful reproduction of "Little Lord Fauntleroy," painted by James Sant, R.A. The print measures 22 inches by 16½ inches, and is an engraving in pure mezzotint by Chas. J. Tomkins, from the original painting. Subscriptions are asked: artist's proofs, £5 5s.; lettered, £3 3s.; and prints, £1 1s. The picture is one of Sant's masterpieces, and the engraving is a very faithful rendering of the same.

THE letter last week in regard to "A Deserving Case," has brought several replies. One from Mr. H. Snowden Ward requires more than a passing word. We take it that the case which Mr. Alcock alludes to is not one for the Photographers' Benevolent Association. We know very little of that Society, except that their collecting boxes are very much *en evidence* at meetings of the Photographic Convention, and every now and then they have a wordy war in the photographic journals. Mr. Alcock's proposal has much to commend it, and we feel sure that if a committee could be formed who would undertake to receive and distribute to needy professional photographers apparatus for which amateurs had no further use, much good might be done. We venture to say that amongst our subscribers there are hundreds who have valuable cameras, lenses, shutters, and other apparatus that are an absolute burden to them and to those about them.

We cannot add to our present multifarious duties that of photographic apparatus receiver in general, but if a committee were formed we will place a column in this journal at their disposal in which the wants of needy professional photographers may be announced, and the gifts of apparatus may be acknowledged. There is no wish, we think, to establish a photo relief society, but rather to show by the gift of apparatus to professionals the gratitude which amateurs feel to them as a body for the services rendered. The committee will, of course, have to enquire into the genuineness of each case. That Mr. Alcock's proposal would do good we are confident, and we shall be pleased to find it heartily supported by our readers.

WE have pleasure in announcing that the exhibition of the *AMATEUR PHOTOGRAPHER* 1891 "Prize Lantern Slides" has been fixed for Thursday evening, the 15th of October. We shall send to prize winners two tickets each, and trust they will make an effort to be present.

THE societies are beginning to get to work, and a busy session is promised. We shall be glad if Secretaries of those societies who desire to have on loan the 1891 "Prize Lantern Slides" will make early application. A form of application is now ready, and will be sent on receipt of stamped addressed envelope. The slides will not be at the disposal of photographic societies until after the 15th of October. Early application, however, is earnestly requested in order that the journeys may be arranged with the least possible expense and loss of time. It will be necessary in many cases for the Secretaries to arrange special evenings, as our experience teaches us that a great many societies favour the middle of the week for their meetings.

THE BRUSH AS AN AID TO PHOTOGRAPHY.

WE have heard a great deal about photography as an aid to the brush wielders, but there is another side to the question which has been forcibly brought to our notice within the last few days.

Many of the leading photographers, both amateur and professional, are content to exhibit their pictures as limned by the solar light acting on the sensitive paper, others again use the brush unsparingly, and there cannot be the slightest objection to this provided it is done openly and avowedly, and we are often called upon to criticise prints which would be much improved by the use of the brush, either on the negative or the print. Often we suggest to a correspondent that his prints would be improved by a wash of colour on the back of some particularly weak spot of the negative. Then again many a negative could be improved by artistic touches on the actual image-bearing film, and, alas! too often we see prints which an artist could improve out of all recognition with the brush and some colour.

Most of our pictures are but monochromatic rendering of scenes and faces, and with such materials, given an artistic taste, and, as in every other department of photography, experience, we can so alter our print as to raise it not only from the level and ruck of mediocrity, but to the eagerly hoped for first-prize position. We can here, perhaps, tone down by a wash of tint some obtrusively white spot, and here add a few artistic suggestions of detail which, either from faults in our manipulations or from faults adherent to the processes used, are wanting, and which go far to render "a photograph not a photograph but a picture."

Then again, too, the use of the brush opens up to us an immense field—that of colour. It is rarely that we see a

coloured photograph which is anything but a daub, but some specimens we have seen this last week leave nothing to be desired both as regards beauty of colouring and exquisite fineness of finish.

Of the difficulties met with in artistically colouring photographic prints, few have any conception, as not only the true and careful blending of colours into a harmonious whole has to be considered, but also the influence of the colour of the photographic basis in modifying the tints of the colours used has to be learnt, a by no means easily ignored factor in this work. This modifying of tint by the influence of the base is a principle which our leading artists successfully employ, but it is an artifice which requires extreme care and judicious application, or else the results obtained are by no means true or pleasing.

The majority of coloured photographs that one meets with are either of the club portrait order, or else of the so-called tinted portrait, which is certainly somewhat less highly coloured but hardly more pleasing. The club portrait, "done in oils," is usually an enlargement, coloured, it is true, with oil colours, but the result is, as a rule, of such a character as to make one wish that it had been permanently done in oils, but over a fire. The tinted photograph is hardly less offensive with its washes of Chinese white and bright pink for the flesh tints, and general washes of colour for the clothes, with the high lights put in with an extra thick coating of paint.

Our readers, many of them, at any rate, will probably remember some enlargements of landscapes coloured by hand, which were shown at the Crystal Palace Exhibition some year or two back, and sensitised canvas for this special purpose is placed on the market by one or two firms of bromide paper makers. And we can call to mind some exquisitely coloured portraits shown at the Liverpool Exhibition in 1888 which were awarded a medal.

We believe many of our readers, especially of the fairer sex, are quite capable of turning out prints either artistically coloured or else worked in monochrome with the brush, and we hope to be able to inaugurate a special competition for photographs worked up with the brush and pencil, and shall endeavour to secure the services of an artist, whose work we note elsewhere, as a judge.

Messrs. John Done and Co., of Woodville Road, New Barnet, send us their admirably got up little list of charges for photographic printing. They produce excellent work, and will take the greatest care of amateurs' negatives, from which they are prepared to print in silver, platinotype, or bromide; they also undertake enlargements on paper or opal. The works are admirably situated for photographic printing, and Messrs. Done and Co. are reasonable in their charges and prompt in the execution of orders.

We have just received a letter from one of our readers who has recently visited Bournemouth West, and used the dark-room on our list. Our correspondent writes:—"If all the owners of dark-rooms on your list are as kind and obliging as Mr. Dales was to me, I can quite imagine that your position as introducer can be no sinecure. His charges for development were most reasonable, but what I found an almost greater benefit than the use of his dark-room was his ability and readiness to give me information with regard to interesting localities in the neighbourhood, and the best time for photographing the various 'bits of scenery.'"

THE "MIGNON" SHUTTER.

MESSRS. W. B. WHITTINGHAM AND Co., of Charterhouse-square, London, E.C., have just placed an extremely convenient and compact shutter on the market, and it is one which is likely to meet the wants of many amateurs, possibly even those of Mr.



A. Hood Daniel. As to its portability, we may say that the engraving is the full size of a half-plate shutter, and it is provided with a movable ring which will enable it to fit a little smaller lens. The shutter is always set, and by raising or lowering the small lever at the side, either time or instantaneous exposures can be given. The instantaneous exposure is very quick, and in working the time exposure the first pressure of the ball opens the shutter, and the

second closes it. As will be seen by the illustration, the working part consists of two slides, opening and closing from the centre, which work very quietly, and the shutter can be placed on the lens to open vertically or horizontally. The pneumatic tube goes on to the lower projection shown in the illustration, and the milled head above it is for expanding or contracting the ring on the hood of the lens. The price of the half-plate shutter is 20s.

"Amateur Photographer" "Holidays with the Camera" Competition (Second Year).—Prizes: Gold, Silver, and Bronze Medals, and Certificates with special prizes of "Niepce" or progressive medals for past prize-winners. In all, twelve prizes will be placed at the disposal of the judges.

SUBJECTS.—All photographs are eligible that have been taken during the "Holidays," but must be landscape or sea pieces, with or without figures, views of town, photographs of cathedrals, churches, public buildings, etc., but not portraits, figure study of pictures which could be classed as "Photography at Home."

NUMBER.—No more than twelve, or less than six prints are to be sent in. They must all be mounted. They will be judged upon their merits as a whole.

DESCRIPTIVE NOTES.—Each competitor must contribute a short account of his holiday, to be not less than 500 or more than 1,000 words.

DATE.—All photographs must be received on or before the 31st of December, 1891.

RULES, CONDITIONS, and ENTRY FORMS will be forwarded on receipt of stamped addressed envelope. The application should be addressed, "HOLIDAYS WITH THE CAMERA," Editor, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C.

"Amateur Photographer" 1891 Stereoscopic Slide Competition (Fifth Year).—Prizes: Gold, Silver, and Bronze Medals, and Certificates in each class. Competitors can only enter one class, and every competitor must contribute six slides.

CLASS I.—Landscape, Sea Pieces, and River Scenery, with or without figures.

CLASS II.—Architecture, Interior or Exterior.

CLASS III.—The Fine Arts, which may include Sculpture, Art Metal Work, China, Bric-a-Brac.

NOTE.—Past prize-winners will be awarded "Niepce" or progressive medals, should they win a medal of the same value as that which they have been awarded in past Stereoscopic Slide Competitions.

DATE.—All slides must be received on or before October 30th, 1891.

RULES, CONDITIONS, and ENTRY FORMS will be forwarded on receipt of stamped addressed envelope. The application should be endorsed, "STEREOSCOPIC SLIDE COMPETITION," Editor, AMATEUR PHOTOGRAPHER 1, Creed Lane, London, E.C.

EXHIBITIONS.

SOCIETY.	Place.	Open.	Close.	Last date for sending in.	Secretary.
Exhibition Committee ...	Amsterdam.	Sept. —.	Oct. —.	Sept. 1.	Chr. J. Schuivier, P. C. Hooftstraat 72, Amsterdam.
Am: Phot: Soc: ...	Glasgow.	Sept. 1.	Oct. 3.	Aug. 22.	Wm. Goodwin, 3, Lynedoch Street, Glasgow.
Phot: Soc: of Great Britain	London.	Sept. 28.	Nov. 12.	Sept. 16.	H. A. Lawrance, 50, Great Russell Street, London, W.C.
Phot: Soc: ...	Hackney.	Oct. 21.	Oct. 22.	.....	W. Fenton Jones, 6, Victoria Street, Hackney, N.E.
Art Gallery Committee ...	Leeds.	Dec. 7.	Jan 9.	Nov. 27.	Geo. Birkett, Municipal Art Gallery, Leeds.

Letters to the Editor.

A FALSE ACTINOMETRIC THEORY.

SIR,—I see by a report in your last issue of the Lewisham Photographic Society, that some of the members expressed an opinion that "the only way in which an actinometer could be

the actinic light to the camera that the other (which is painted a darker colour, and which I shall designate D) will.

Let L be photographed in rather a poor light, the exposure being calculated by means of an actinometer observation taken at the focussing screen (the position occupied by the sensitive plate).

Now let D be photographed under similar circumstances, except that the position of camera and object be so arranged that the light falling upon D shall be just *double in actinic value* that falling upon L in the previous example.

Now a little calculation will show that as D possesses only half the reflecting capacity of L, it will, when illuminated to double the amount, reflect exactly the same total amount of actinic light to the sensitive plate. An actinometer observation, therefore, taken at the focussing screen will indicate the same exposure for D (under the circumstances above stated) as it did for L. Let this exposure be given and the two negatives developed together for the same time. What is the result? Why, that the negative image of D will be exactly of the same density as that of L, while the aim of the photographer ought to be to show that L was a light-coloured object and D a darker one.

I have given the above example because the reasoning can be easily followed without actual trial, but I should explain that my conclusions on this matter are the results of many specific experiments, and are not merely theoretical. These conclusions are:

(1) That when the light falling upon the subject varies in different exposures, but all other conditions remain the same, the variation of correct exposures will be in exact proportion to "the actinic value of the image thrown on the screen."

(2) That when the colour or reflecting power of the subject varies in different exposures, but light and other conditions remain the same, the variation of correct exposures will *not* be in proportion to "the actinic value of the image thrown on the screen," but on a totally different scale.

The second rule depends upon the fact that in photographing a dark subject the total light action required on the sensitive

plate is much less than is required in the case of a light object, in order that the two negatives may show the difference between the two subjects, and not represent them by images of equal density.

It will therefore be seen that any method of gauging actinic light at the focussing screen is certain to lead to unreliable results, unless variations for different coloured subjects are made.

I should mention that I have exposed two plates on casts (one white, the other dark grey) giving exposures in exact inverse proportion to the amount of actinic light they reflected (tested

"AMATEUR PHOTOGRAPHER" COMPETITION PICTURES.



WAITING FOR A NIBBLE

By J. C. OLIVER.

practically correct would be to gauge the actinic value of the image thrown on the screen."

Now I believe that this theory is a favourite one, judging by the number of times it has been propounded to me, and as no one else has, to my knowledge, pointed out its falsity (so very evident upon close investigation), I hasten to do so.

Let me first try to give a simple practical example.

Two plaster casts or other monochromatic objects are to be separately photographed. The one (which I shall designate L) is painted a light colour, and in fact will reflect exactly double

by actinometer at the focussing screen); the two negatives were developed together and printed together, and, as anticipated, gave prints of equal intensity, quite failing to show that one cast was white and the other dark. I sent a frame containing these casts and prints to the last exhibition at Pall Mall, but they were considered "too controversial for exhibition."

I am convinced that the best method of actinometer observation is the one which I have been the first to insist upon and to work out practically, viz., to test the light which falls upon the subject, and *not* that which is reflected from it.—Yours, etc.,

Hereford, Aug. 29th, 1891.

ALFRED WATKINS.

* * * *

A NEW LENS.

SIR,—Referring to the Rev. T. Perkins' letter in your issue of the 21st inst., anent the new lens, it may be as well to mention that this, though new to the general public, has been in existence for upwards of three years, and is referred to by Mr. J. Traill Taylor in the "British Journal Year Book" for 1889. It was designed specially for a photographer, who desired to have a lens giving a slight general diffusion of focus equally over the plate. This it does with the full aperture = $f/16$, and with the next stop, = $f/22$, the image is practically quite sharp. A fear that the special qualities of this lens would not be appreciated has hitherto prevented it from being brought more prominently forward. Recently, however, numerous inquiries have given us reason to suppose that there is room for such an instrument.—Yours truly,

W. WRAY.

Highgate, August 31st, 1891.

* * * *

WANTED, A SHUTTER.

SIR,—Mr. J. Morson, in your issue of last week, p. 143, recommends a Bausch and Lomb new shutter, in the face of which the following tests of the speed of the same, tested by Mr. Francis Blake, may be of interest:—

Bausch and Lomb (new style); full opening, about $1\frac{1}{8}$ in.

Graduated time, $\frac{1}{100}$ sec. . .	1st test	= 0.016 sec.
	2nd "	= 0.018 "
" $\frac{1}{50}$ sec. . .	1st "	= 0.050 "
	2nd "	= 0.043 "
" $\frac{1}{20}$ sec. . .	Test	= 0.047 "
" $\frac{1}{100}$ sec., $\frac{1}{2}$ in. opening		= 0.013 "

The above tests are extracted from the *American Amateur Photographer*, Feb. 1891. In the face of these tests the shutter can hardly be said to fulfil the requirements of Mr. Hood Daniels.—Yours truly,

E. J. WALL,

London.

* * * *

HELP A POOR PROFESSIONAL: A DESERVING CASE.

SIR,—I quite agree with the benevolent tenour of Mr. Harry Alcock's letter, under the above heading.

Considering the amount of real pleasure which amateurs derive from the practice of photography, which has been rendered possible for them by the diligent work of professionals who have freely imparted the results of their indefatigable labour, with little or nothing in the way of patenting or concealing of processes, I think it would be but graceful and grateful if a fund were opened to assist the poor or unfortunate members of a profession which has contributed so much to the pleasure and amusement of amateur photographers. Should you be good enough to undertake the formation of a fund on the lines sketched by Mr. Alcock, to receive and distribute apparatus and money for the benefit of struggling and unfortunate professionals, without too strict and merciless adherence to the nasty, cant phrase of "*deserving*"—none of us *deserve* anything, and we are plainly told that sinners, not saints, were the objects of our Lord's chief mission—I shall be happy to subscribe a guinea annually.—Yours truly,

A READER OF THE "AMATEUR PHOTOGRAPHER."

August 28th, 1891.

SIR,—It is pleasing to see that amateurs, as in the case of your correspondent, Harry Alcock, in last issue, take an interest in the needs of the poor professional, and I hope that the deserving man will have a camera given to him by some of your generous readers. I would point out, however, that the establishment of a new general fund for helping needy professionals would be a great mistake, since there is already in exist-

ence the Photographers' Benevolent Association, which is doing an extensive and useful work, and which has a very competent executive, with wide experience in dealing with appeals for help. The Benevolent is mainly supported by the subscriptions of a number of leading amateurs, and any of your readers who may care to subscribe money for the Benevolent to those professionals who are most in need will do well to send it to the Secretary of the Photographers' Benevolent Association, Mr. H. J. Beasley, 65 and 66, Chancery Lane, W.C., who will answer any inquiries with reference to the work of the Benevolent.—Yours faithfully,

H. SNOWDEN WARD

(West Yorkshire Local Secretary, P.B.A.)

August 29th, 1891.



On the Estimation of Exposure.

BY PROF. ALEX. LAINER.

IN an article in Eder's "Jahrbuch für Photographie für 1891," Dr. Miethe states that many photographers consider that the time of exposure is not inverse to the square of the diameter of the diaphragm, but that the time of exposure is proportionately lengthened.

Dr. Miethe examined different samples of glass with regard to the absorption of chemical light, by exposing gelatino-chloride of silver paper to a determined standard tint by repeated burning of a measured quantity of flash powder, and placing in between the glasses in question. Dr. Miethe arrived thus at the conclusion that the Jena glasses show less absorptive power than the earlier used optical glasses, and expressed the opinion that perhaps an explanation of the above anomaly might be found in the unequal absorptive power of the glass.

I wished to convince myself on this point, whether, with Steinheil's antipianet and with the use of dry plates, the well-known law on the time of exposure with the change of the diaphragms held good or not, and I proceeded in the following way:—On a cloudless day I fastened the scale of Warnerke's sensitometer with paper laid behind it on a window, focussed it and exposed twice, immediately one after the other, equally long, using two diaphragms, the apertures of which were in the ratio of 2 : 1. The plates were developed; the first image showed 15 deg. W., the second 10 deg. W. To these degrees correspond the relative exposure of 75 and 18, which are in the ratio of about 4 : 1.

I then repeated the exposures with the two diaphragms, and exposed in the proportion of 1 : 4, and obtained in developing in both cases 15 deg. W.

I finally arranged for a reproduction of the same scale, so that I focussed on a plate 13 by 18 cm. One-half of the plate I covered with tin foil, and exposed for 10 seconds with the larger diaphragm; then, in the dark-room, I covered the exposed half and uncovered the other half, and in accordance with the known law exposed for 397 seconds with the smallest diaphragm. On the finished negative no difference was noticeable, but, however, the second exposure appeared far too short, when I repeated the experiment, and exposed the second half, half as long, namely, 198 seconds.

From these experiments it is evident that the law: "The duration of exposure is inversely proportional to the square of the diameter of the aperture," fully applies with the use of the antipianets and dry plates.—*Photographische Correspondenz.*



We are pleased to notice that Mr. A. W. Gottlieb, who has secured prizes in AMATEUR PHOTOGRAPHER Competitions, was awarded a silver medal for a frame of six photographs of North Wales exhibited at the Blaenau Festiniog Eisteddfod on the 26th ult.

Photographic Procedure.

By E. J. WALL,

Author of the "Dictionary of Photography."

SECTION I.

THE CAMERA AND ITS APPURTENANCES.

(Continued from page 128.)

Plumb Indicators.—These are convenient little devices for ascertaining when the back of the camera is upright, one being seen in position on the camera in fig. 21. The following figure (fig. 42), lent by the Thornton-Pickard Company, also shows the same full size. A correspondent writing to the AMATEUR PHOTOGRAPHER of July 24th, also describes and sketches a new plumb level of his own design. It differs from the Thornton-Pickard level, inasmuch that it can be seen by looking down on the top of the camera. It can be used either for oblong or upright pictures. In fault of such inexpensive commercial articles as these, a bunch of keys or any heavy article tied to a piece of string may serve the same purpose.



FIG. 42.

Rack and Pinion.—This arrangement for lengthening or shortening the bellows consists of a toothed pinion or wire working in a rack fastened to the baseboard of the camera, and actuated by a milled head at the side of the camera, as seen in figures 17—22. A recent improvement consists in so making the pinion that the milled head can be pulled out about half an inch, thus disengaging the pinion from the rack, and allowing the camera to be quickly pulled out to about the required position, and then by pushing the milled head in again, the pinion engages with the teeth of the rack for fine focussing. A still later improvement consists of a toothed wheel working at the side of the camera on a rack which has the same purpose.

Reversing Back.—The earlier forms of cameras were made square, with an arrangement in the dark-slides for taking a picture with the longer base horizontal or vertical. The next improvement consisted of an arrangement by means of which the entire body of the camera was turned round, this then gave way to an arrangement by means of which the back of the camera only is turned or reversed, and the very latest improvement consists of so attaching the back that it may turn round without removal from the camera, as shown in fig. 10.

Rising Front.—See Front.

Roll Holder or Roller Slide.—A roller slide is practically a dark-slide or light-tight box, constructed so as to contain a roll of some flexible support coated with a sensitive emulsion, which can be brought up to the focal plane of the lens, exposed, and then wound on to another roller, thus bringing a fresh

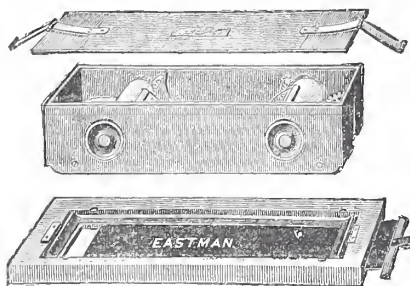


FIG. 43.

surface into position. The first slide was made, I believe, by Melhuish in 1855. Warnerke also intro-

duced one, and latterly we have had several makes differing in parts, but all constructed on the same principle, such as Eastman's, Morgan and Kidd's,

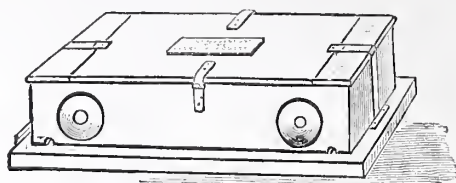


FIG. 44.

Perken's, Thornton-Pickard, etc. The first-named kind is shown in figs. 43 and 44.

Screw.—It is by no means an impossibility for the screw which serves to hold the camera to the tripod head to be mislaid or lost; it should therefore be made part and parcel of the tripod head, or be chained to it by a little brass chain working on a ring. Another convenient little dodge is shown in the accompanying diagram (fig. 45), in which it will be seen that part of the thread of screw is cut off, the hole in tripod top being provided with screw-thread, which prevents the screw dropping out.

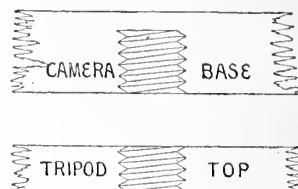


FIG. 45.

Instantaneous Photography.

By W. JEROME HARRISON, F.G.S.

CHAPTER XV.

DEVELOPMENT.

ABANDONING for a time what may be called the "instrumental" part of the subject, it is our intention to now take up that branch of photography which is truly *an art and a science combined*—the study of development.

A plate which has been properly exposed within a camera contains upon its coated surface the potentiality of a picture. The scene or portrait drawn upon the plate by the agency of the lens remains there, but is, as a rule, invisible to our eyes. Sometimes, after a very long exposure, the most brilliantly lighted portions of a subject are seen as dark patches upon the plate when it is withdrawn from the dark slide; but in "instantaneous" photography our eyes are wholly unable to detect the subtle changes which light produces upon the plate during its momentary exposure to that agent.

A developer is an agent which carries on or extends the changes produced by light so as to render them visible. It is evidently of the highest importance that the developer should act only upon those parts of the plate which have been affected by light; if it were to act also upon the parts in which light had produced no alteration, the result would be "fog," and a general darkening of the surface of the plate in which the picture proper would disappear and be lost.

In the matter of development the *daguerrotype process* (1839) stands alone. The iodised silver plate after exposure

in the camera is exposed to the vapour of warm mercury. The molecules of mercury *adhere* to the latent or photographic image (the image produced by the action of light), and produce a shining amalgam which causes the image to stand out visibly. There is no "latitude of exposure" in the daguerreotype process. For a good picture the exposure must have been practically correct.

Acid Development.—In the collotype process (1841) and the wet collodion process (1851) the developers are *acid*, and the image is built up from *outside the film*, by a deposit of metallic silver from the nitrate of silver which forms part of the developing solution. Now, an acid developer is necessarily a *weak* developer, for all acids act as powerful restrainers. Yet in the processes just mentioned such a restrainer is necessary, for as silver nitrate solution is floating (as part of the developer) all over the plate, if the acid be absent it is found that a deposit of metallic silver takes place *all over* the plate, which is thereby fogged and ruined.

Alkaline Development.—When dry collodion plates came into use (1855), alkaline development became, for the first time, possible. In such plates there was a sufficient amount of silver in the collodion coating to produce a satisfactory image, so that there was no absolute need for the use of silver (in the form of a solution of silver nitrate) in the developer. And an alkaline developer is immensely more powerful than an acid developer. For while the acid is a restrainer the alkali is a whip, or spur, or accelerator.

The idea of alkaline development came from America in the year 1862, and was contained in Anthony's method of *fuming* dry collodion plates with ammonia, previous to development. Glover, of Liverpool, and Leahy, of Dublin, adopted and extended Anthony's plan; but it is to the late Major Russell that we owe the complete alkaline developer as we now use it. He introduced a third element—a soluble bromide—into the alkaline developer, for he saw that a bridle or "restrainer" was needed as well as a spur; and he published this pyro plus ammonia, plus a bromide developer in the year 1863. It has ever since continued to be the favourite developer of the best English workers with dry-plates, both collodion and gelatine.

Other Developers.—In America, the "fixed alkalies" or carbonates of potash and of soda have always been—and still are—preferred to the "volatile alkali" (ammonia).

The use of *ferrous oxalate* for developing was discovered simultaneously by Carey Lea (in America) and Willis (in England), in 1877.

Hydroquinone was recommended by Abney in 1880; but it did not come into extended use until nearly ten years later.

Eikonogen was placed on the market by Dr. Andresen, of Berlin, in 1889.

There are now practically only five developers which have to be considered in connection with instantaneous exposures upon gelatine dry-plates. These are:

1. Pyro with ammonia.
2. Pyro with carbonates.
3. Ferrous oxalate.
4. Hydroquinone.
5. Eikonogen.

We shall now proceed briefly to explain the nature, characteristics, and manner of use of each of these five developers; keeping in mind the special purpose (instantaneous work) for which we desire to use them.

(To be continued.)

The Gold Medal offered at the National Eisteddfod of Wales, lately held at Swansea, for a collection of photographs, has been awarded to Mr. Wickens, Upper Bangor. There was an error, which has just been rectified, in the original award.

How I Started a Successful Society.

BY A PROVINCIAL.

THESE lines are not written with the object of showing how it should be done, neither as an example of how it should not be done, but as a record of how it was done.

In narrating my experiences and chronicling the so far "short and simple annals" of our Society, I do so in the hope that those who read that which follows may find not merely something to imitate, but what is very often even more useful, learn something to avoid.

I must here plead guilty to the fact that my personally acquired knowledge respecting the ways and manners of photographic societies is of somewhat recent date. I do this the more readily as the above-mentioned fact is the chief reason which makes me think that my observations will be useful and therefore welcome. Having no old time-honoured knowledge to fall back upon, it is obvious that I shall have my data up to date, and hence thoroughly *apropos* to the times in which we live.

What first impelled me to put these reminiscences on paper was that not long after I had launched my "successful society" I from time to time received applications from various gentlemen living in different parts of the kingdom, asking for detailed advice as to the most suitable steps to take in order to found a local association of photographers. Some amongst my correspondents had a perfect genius for minutiae, judging by the numerous and puzzling questions which they propounded; anyhow, they were all eventually able to form local societies which, as far as an outsider can judge, appear to be healthy and vigorous organisations. From perusing the above letters of enquiry I conclude that there are many individuals who would do as I have done if they only had a little guidance to enable them to make a fair start, and I venture to think that this series of articles will afford them all the information which they stand in need of in order to begin operations.

And to the end that no one may be deterred from taking up the work of organisation because of their personal ignorance of the workings of photographic societies, I would here state that until I took the "first steps" to summon a meeting of local amateurs, my acquaintance with the routine of such societies was *nil*.

Before plunging *in medias res* it would perhaps be well for me to indicate the ground which I propose to cover.

In the first place I do not intend confining these notes to the actual starting, but purpose extending them so that they embrace the first year's working of our society.

I had originally resolved upon appending my name and that of our society, but, on reflection, conclude it would be more to the advantage of my readers not to do so, as I shall consequently be able to write more freely than if I introduced names; and in order, as far as may be, to baffle identification, I shall make certain small alterations. No doubt some of those concerned will guess to which particular circle I am referring; but after all, a guess is no certainty, and anyhow the guessers will be a limited few. But I want clearly to impress on my readers that these notes do not form a resurrection pie compounded of indigestible scraps, but rather, I hope, a wholesome preparation of materials specially obtained. This being the case, I may perhaps at times become somewhat humdrum; if so, it is because I prefer "matt surface" to "high glaze"—in other words, homely truth to false glitter.

As this article is only in the nature of what is known as a preliminary canter, I will here, once and for all, apologise for the number of times which the first person singular pronoun will appear on the scene. Should this particular word, by its frequent recurrence, give offence, remember "it is only a very little one" and be proportionately merciful.

Hereunder I set down the leading topics which I shall touch on in future articles: Why I started our society—First steps—Supporters—Opposition—Preliminary meeting, and what was done there—Pro tem. committee—Adjourned meeting—Electives—Meeting rooms and dates of meetings—Subjects of meetings—Recruits and recruiting—Reporting and advertising—Annual meeting and the report—The executive—Special shows—Smoking concerts—Anniversary dinner—Exhibition—Prizes—Judges—Excursions.

The above syllabus (which, by the way, is subject to addition

and subtraction) reads somewhat heavy, but let no one be alarmed, because, as I do not mean on this occasion to write a text-book on the subject, I shall not treat the aforesaid topics in the usual super-solid fashion, but shall rather try and present them in the form of a light but invigorating syllabus; so if in the course of carrying out this design I should introduce too large a proportion of levity, pray bear in mind Rochefoucauld's apophthegm, "Qui n'est que sage est triste," and Horace's still better known line, "Dulce est decipere in loco."

In my next I shall explain why I started our society and what were the first steps which I took.

Paul Lange and Submarine Mining.

It will be remembered that some time ago Mr. Paul Lange took some snap-shots of submarine mining, which, subsequently forwarded to the officials at the War Office, were highly thought of in that influential quarter. A few days ago Mr. Lange had a second experience of submarine mining, this time not under very favourable conditions. He was accompanied by a special commissioner of the AMATEUR PHOTOGRAPHER, who sends the following account of the day's doings.



BEFORE THE EXPLOSION.



THE EXPLOSION.



AFTER THE EXPLOSION.

We, that is, a detachment of Mersey submarine miners under the command of Major Montgomery, and a distinguished company, left the George's landing-stage in the Government steamer *Lord Heathfield*, making for the Brazil Bank beyond the Perch Rock Battery at the mouth of the river. Quite half a gale of wind was blowing, and frequent squalls of rain made things altogether rather lively. Arriving off the Brazil Bank, Major Montgomery, with Captain Knight and three soldiers of the Royal Engineers, put off in the steamer's dinghy. The little boat also took aboard a complement of stores, including galvanised iron wire to be subsequently used as "earth," old iron, pieces of broken stoves, lead, etc., etc., to be used in sinking the "charges," mines without the mine cases, the electric motive power, dynamo, and spun yarn, india-rubber tape, solution, knives, scissors, and all the paraphernalia necessary for "making joints." Then the dinghy was rowed into shallow water, and operations were commenced about a mile away from the steamer. By the aid of the ship's glasses we could discern the occupants of the boat preparing the "charge," which was at length dropped overboard; then another, and another. An extemporised "charge," we learnt, consists of a canvas bag, sealed at the mouth with solution of india-rubber to make it water-tight. In the interior is the gun-cotton, and also a small detonating apparatus through which wire is passed. An end is left projecting, and to this is jointed the end of a small cable coiled on board the dinghy. At the other end of the cable is the dynamo from which the electric current is operated. When the party in the boat had completed their arrangements, hoisted overboard the "charge," marked the position with a small red flag, etc.,

they rowed away to a convenient distance, "paying out" the cable as they went. They then signalled to the *Lord Heathfield*, by means of a flag and the Morse alphabet, "All ready," to which the answer was sent back from the steamer, "All right." Thus we were apprised that the charge was about to be exploded. Then a few turns of the dynamo on the dinghy, and bang went the mine, a column of water from fifty to sixty feet high being shot up into space. The effect was exhilarating and exciting; we were glad that we were not immediately over the "charge." We had three explosions in all, two 25 lb. charges, and a 50 lb. Then we returned to Liverpool. Amid the rain and the wind and the firing, Mr. Lange had stood gamely on the bridge of the steamer, his handsome new camera in hand, "shooting" at this and that for all he was worth. His pictures when completed will be eagerly scanned; but it must not be forgotten that the operator was working against every disadvantage of the elements. However, it is something to be asked twice to photograph submarine mining. We append reproductions of three of the photographs.

TONING AFTER FIXING.

By M. MERCIER.

The formulæ for toning baths are extremely numerous. Usually and by the better plan it is customary to tone the

prints, and then fix them in hyposulphite of soda. Numerous baths have been proposed for toning and fixing at the same time. These baths, being generally acid, ought to be rejected, because they may give rise to more or less rapid sulphuration of the prints.

It may perhaps be useful, particularly if a toning bath is not handy, to first fix the prints, for they will not tone after the lapse of a certain time. The following is the formula of a bath which may be used with advantage:

Sulphocyanide of ammonium	...	...	30 parts
Chloride of gold	...	...	0.3 part
Caustic potash...	...	...	0.3 "
Water	...	...	1,000 parts

This bath should be used immediately, for the caustic potash instantly decomposes the red precipitate which is formed when adding chloride of gold to the sulphocyanide. It will keep well, act very rapidly, and allows one to tone to a blue black. A purple tone is obtained by replacing the caustic potash by five parts of carbonate of soda.

This toning bath should be diluted with two or three parts of water for matt-surface paper; in this case it is extremely economical. It may also be used before fixing, but then it acts very slowly, and presents a certain tendency to give rosy tones. This toning should be followed by a good washing — *Bulletin Soc. Franc. Phot.*

Holiday Resorts and Photographic Haunts.

NORTH DEVON AND SOMERSET AS A FIELD FOR PHOTOGRAPHY.

By JOHN A. HODGES.

II.—*Porlock continued—The Road to Lynmouth—The Coast Path Described—Culbone Church—Glenthorne—Lynmouth—A Beautiful Spot—A Well-Merited Protest—Work on the Beach—The Harbour, Lighthouse, and Quay—Early Morning Work—Picturesque Cottages—More Threatened Improvements—The Village—The Two Lysns—Fees—The Valley of the East Lyn—Technical Matters—A Good Suggestion—The Coombe Park Stream—Ilford Bridges—Linton and Lynmouth—Rival Attractions—Dark-Room—The Coast—Rock Scenery—The Castle Rock—The Heddon's Mouth.*

ALTHOUGH in the last chapter Porlock was made the subject of a day's excursion from Minehead, it would well repay the photographer to devote a few days exclusively to it and its surroundings, but as it is desired to make these notes, if possible, useful to all, the whole of the scenery on the prescribed route will be described, such places as are likely to make good centres being from time to time noted, it being left to the reader to decide for himself whether he remain in one place and work the district round, or, having exhausted the beauties offered by one section, to tramp on to the next. There can be no doubt, however, that the best way of seeing the district is to walk from place to place, not hurriedly, but allowing time to fully explore (in a leisurely manner, which is indispensable to true enjoyment) the beautiful and varied scenery of the district.

From Porlock to Lynmouth is a distance of about thirteen miles, and one may either go by the coach road or by the coast path. Of these two routes it is difficult to decide which is the better (of course, the question only concerns the pedestrian in that the coast path is not accessible for vehicles), the character of the scenery being so different in each case. On leaving the village, the road ascends Porlock Hill until, in about three miles, an elevation of 1,376 feet is attained, thence on to Lynmouth; the road skirts the borders of Exmoor, across which blow the most invigorating of breezes to refresh one after the steep ascent. Beautiful as this walk is, from a photographic point of view, the preference will probably be given to the coast path. The road runs at first through Porlock Weir, to which point a carriage, or bicycle, may be taken. At Culbone, just beyond, is a very pretty little church, said to be the smallest in England; it requires a very wide angle lens to obtain a photograph, and is even then in too confined a situation to make a satisfactory picture. Soon after, the path forks, the lower branch being the one to choose; it

is rough walking, or rather scrambling, from here on to Glenthorne, a charming Elizabethan house perched up on a rocky ledge and embowered in foliage. The remainder of the walk, which it is not necessary to describe here in detail, maintains its beauty until Lynmouth, nestling at the foot of the steepest of hills, is at length reached.

For beauty of situation there is probably no other village in the three kingdoms which can be said to excel Lynmouth. There is a sense of completeness about it which in other places is so often wanting. Nowhere else are to be found in combination so many of those elements of the picturesque which together combine to form so beautiful a whole. Imagine a deep gorge through which rushes an impetuous rock-strewn trout stream, bright and sparkling right down to where its waters mingle with the sea; clothe the precipitous sides of the rocky hills with luxuriant masses of foliage; scatter a sprinkling of cottages at the bottom of the glen, and you have Lynmouth. One would imagine that such a scene of loveliness would be sacred from the profane touch of man, but not so, the utilitarian spirit of the times has touched with its withering hand those who are in authority, with results most destructive to the natural beauty of the scenery. In order

to accommodate the weak-kneed and indolent, the magnificent face of the cliff on one side of the bay has been scarped and disfigured, in order to provide them with a lift! Nor is this all, gas or lamp light is deemed inadequate to meet the needs of the inhabitants, Lynmouth must have the electric light, and in order to provide the motive power to drive the dynamos, the beautiful banks of the East Lyn have been torn down, rocks blasted, trees uprooted, and an artificial cemented cul-



Rockford, on the East Lyn.

vert constructed for about a mile up the most beautiful portion of its course. Those, therefore, who wish to see Lynmouth before the Local Board, or those who are responsible for these improvements, have succeeded in developing this truly unique spot into the conventionality of a modern fashionable seaside resort, had better not long defer their visit, for directly the railway communication is completed, and the speculating builder gets possession, the place will be doomed.

Once in Lynmouth the difficulty will be where to begin operations. Let us, for convenience sake, stroll down to the beach and there set up the camera. Beautiful as the view is, it will be found somewhat difficult to secure a good standpoint for the composition. The best plan is to choose a time when the tide is out, and then to follow the course of the river until a space clear of the stakes which mark the channel is reached. The lighting is best, before 9 a.m., after then the sun is too much in front of the camera. Retracing one's steps, a picturesque cluster of cottages on the quay will at once arrest attention. By all means secure a negative, for, alas! it is proposed to demolish them in order to make way for a fine row of lodging houses. At present there is no railway communication with Lynmouth, and all the necessities of life are conveyed there by water, consequently there are

generally two or three untidy but extremely picturesque coasting vessels to be found lying alongside the quay, which will afford some very pretty marine studies to the painstaking photographer. The lighthouse, which is happily quite in harmony with its surroundings, was presented to the town by a gentleman, and is said to be an exact reproduction of an ancient tower on the Rhine. A view of it, if taken in conjunction with a stormy sky effect, makes a very striking picture. A very pretty view of the older portion of the village may be obtained by going down some stone steps, near the rustic bridge, and planting the camera on a large rock in mid-stream. The East and West Lyn unite their waters just above, the latter stream running through private grounds, now owned by the proprietor of the Lyndale Hotel, who makes a charge of 2s. 6d. for the privilege of using the camera. The East Lyn, however, is by far the finer stream, and is open to the photographer without restriction throughout its course. To those who are fond of glens no more beautiful scenery of this nature could be wished for than the four miles of river between Lynmouth and Rockford; the whole distance presenting an ever-changing panorama of beauty, culminating, perhaps, at the last-named place. It is impossible to localise particular view points, nor is it desirable, but a word or two on technical matters may not be without value. In the first place a wide-angle lens will be found extremely useful in photographing glen scenery in confined situations, nor will its use, if it be properly used, result in either exaggerated or distorted perspective. Its chief drawback, namely the difficulty of focussing owing to the smallness of the diaphragms, will be removed by having the largest of them opened out to about $f/11$, not necessarily with the idea of using that aperture when exposing, but in order that a sufficient amount of light may reach the screen to enable one to arrange the picture and focus in comfort. The writer has succeeded best in photographing glen scenery by giving full exposures on dull days. A thickly-coated plate is a *sine que non*, a thinly-coated one will inevitably, under such conditions, show halation in a marked form. At Waters Meet the Coombe Park water joins the Lyn, and some pretty views will be found along its banks as far as Ilford Bridge, where the stream crosses the road and makes a charming picture.

Lynton has an advantage over Lynmouth in being more bracing and affording more extensive views, but is not nearly so interesting or picturesque as the former village, therefore the reader who is upon photography bent will do well to make Lynmouth his headquarters. He will find a dark-room in the village at Vickory's, for using which a fee of 6d. is charged. The writer generally makes it a rule not to develop until he returns; but having taken a particular negative last year for an artist friend, he went in to develop it; unfortunately, however, no whole-plate tray was available, and he had to make shift with a large meat dish borrowed from the hotel. Plates can also be obtained, but personally the writer prefers to take his own when on tour.

Those who are fond of rock scenery will be delighted with the coast west of Lynton. The Valley of Rocks is, perhaps, tame and over-rated, but the cliffs are impressive to a degree. The Castle rock makes several fine studies, but they must be taken quite early in the day. The coast walk onward to Heddon's Mouth, through Lee Bay and Woodabay, will yield plenty of material for a long day's work.

Upon the whole, I can think of no locality so eminently suited to photography as Lynmouth and its surroundings, and anyone visiting it will be loth to come away.

THE BASINGSTOKE CANAL, THE THAMES, AND WEY.

When, as at this season of the year, a summer outing is very generally under discussion, a short account of a ten days' water pilgrimage which the writer with two friends recently brought to a conclusion may be interesting to those who are looking out for a new field for the camera.

Starting from town, the S.W.R. in about half an hour landed the trio at Addlestone, our rendezvous. Here we found our canoe, a Canadian cedar rib, waiting for us on the Wey river, and we soon, although it was a work that required some amount of ingenuity, stowed away our kit. This may readily be imagined when the reader hears that in addition to three men, all up to the standard or rather over, camera and dog, room had to be found for a gipsy-tent, cooking utensils, and hampers of provisions. A short paddle brings the entrance of the Basingstoke Canal into sight, and the navigation commences. The locks, which are the principal objection as far as time and trouble are concerned,

make very excellent pictures, for they are old, made of wood, and are more or less in a state of decay, surrounded with willow trees and rushes.

The best method of going up the canal perhaps, as far as Aldershot at all events, is to make friends with a skipper of one of the Company's barges, who for a small consideration will take everything on board. The charge for using the locks the whole distance is £1, but if one's craft can be carried over, the amount is halved. This canal is pre-eminently the place for the camper, for the country is beautiful, there is no traffic of consequence, and one is quite out of the world.

Where all is lovely it is difficult to point out views of special beauty and interest, but suffice it is to say that plates could be exposed in the neighbourhood of Woodham by the dozen. This place, which is about two miles up, is in the midst of a pine wood.

Four miles further by water is Woking, a stretch without a lock and well wooded for the greater part of the way. At St. John's, Woking, is the Crematorium, which is worth a visit, the civil official being always pleased to show visitors over the building.

Brookwood, with its asylum on the top of a hill, is the next place of importance, and there is a good camping ground half a mile below.

After this the locks become very numerous, there being some fifteen before Aldershot is reached, and in some places there are two or three within a few hundred yards of each other.

The canal runs through Pirbright and the Guards' Camp, and within a short distance of Bisley Common.

On reaching the neighbourhood of Frimley, a most exquisite gorge is entered, with tall oaks and firs on either side, and soon after two large lakes, from which the canal is supplied with most of its water, are passed through. Aldershot is at length approached, and although it can hardly be called pretty, it is certainly interesting, and one charm is that here the last lock is surmounted, and there is a clear stream of some seventeen miles to Basingstoke. There is a very good-natured photographer near the boat-house at Aldershot, who very willingly puts his dark-room at the disposal of amateurs for a trifling sum.

The canal in its secluded parts is a very haunt of the nightingale, the moorhen, and the kingfisher.

There are many old massive brick bridges, now covered with ivy and lichen, and looking very picturesque in their decay, and forming features that are well worth a stoppage to photograph.

At Grewell there is a tunnel three quarters of a mile in length, both ends of which form good subjects for a picture.

The last few miles to Basingstoke are not very beautiful, the water being covered with a green weed; but even here in the breaks the water is so transparent that the fish at the bottom can easily be seen.

At Basingstoke one can either return by the canal or, better still, journey by rail to Reading and come down the Thames. Caversham, Sonning, Medmenham, Sbiplake, Wargrave, and Henley are names only to be mentioned to create a photographic longing in the mind of the enthusiast.

The little village of Hambledon, which is about a mile and a half from the locks of the same name, should be visited. It is the perfection of a country resort, and has a fine church and old-fashioned inn. Marlow, Cookham, Cliveden, Maidenhead, Bray, etc., are all well known, and have been often described in the AMATEUR PHOTOGRAPHER. On reaching Weybridge the Wey is again entered and the circle made complete, and for a holiday trip with a camera and, if possible, with a tent, the one described would be hard to beat.

In conclusion, the cost of this expedition can be kept well under £10 for three (everything included) if hotel bills are avoided by living out of doors.

An Easily Made Changing Bag.—Get four yards Turkey red twill, divide it in half, make two bags, each when run up to be one yard long and the width of the stuff. Now fasten them together at the open end by the brim, which turn down broad, run into them a wide, strong piece of elastic and you have a double bag. When you wish to change a plate, put the bag over your head and shoulders, and take your plate and slides inside and change away. Best done under shadow of a tree or in a room, but I believe it would be safe in sunlight. Join the bags at the rim only. Cost, about 3s. 3d. Weight, about 19 ounces. Useful to pack cardboard plate boxes in when travelling.—“SELF-HELP.”

Exhibitions.

ROYAL CORNWALL POLYTECHNIC SOCIETY'S PHOTOGRAPHIC EXHIBITION.

THE fifty-ninth Annual Exhibition of this well-known Society, which has just been held at Falmouth, was altogether most successful. Nearly every department was well filled, and much interest was taken in the week's proceedings. Amongst the most attractive features to the general public were a magnificent collection of antique gold and silver plate, including many pieces of historic interest, lent by Mr. Cavendish Bentinck, M.P. for the united boroughs of Penryn, Falmouth, and Flushing; and a splendid series of full ship's models lent by Mr. Arthur Serena, Gladstonian candidate for the united boroughs.

It is, however, to the Photographic Department that the attention of our readers will be chiefly directed. Photography has always been one of the most important departments of the Polytechnic Exhibitions, and the Society prides itself in presenting to the public every year a collection of photographs which, for high technique and general excellence, is not excelled by any exhibition in the country. This year has been no exception to the rule. The photographs were not quite equal in number to those of last year, but the collection suffered nothing in point of general excellence. The quality of many of the exhibits, especially in portraiture, could not be surpassed.

Portraits were stronger as a class than landscape pictures, but some of the latter were no less worthy of special notice. Silver prints appear to be getting fewer year by year, most artists, both professional and amateur, preferring to print in platinum, which process commends itself for richness and delicacy of finish.

Reviewing the pictures in the order in which they appear in the official catalogue, we first notice some very fine transparencies for window decoration by Mr. F. W. Edwards, of London, and a grand interior of the nave (Westminster Abbey), a most successful picture of a difficult subject, and which deservedly carries off the first silver medal.

Mr. and Mrs. W. J. Anckorn, of Arbroath, send two genre pictures, which are well chosen subjects, skilfully treated.

Two instantaneous studies—"Skating on the Canal," by Gulliver Speight—are worthy of notice.

Mr. Lyd. Sawyer, of Newcastle, sends a series of excellent pictures, several of which illustrate busy life on the Tyne. We have seen some of these subjects at former exhibitions of the Polytechnic; they are, however, so artistically treated, especially No. 785, "Towing Up-stream," and No. 790, "Off to the Seaside," that they lose no interest at second sight. For a well-balanced, realistic picture, No. 784, "Two's Company," Mr. Sawyer receives a second silver medal. His "Crewel (Cruel) Work," No. 792, is a well-conceived subject, though not equal in tone to No. 784. Messrs. Green, Cross and Bevan, of London, exhibit specimens of photographs on silk, a class of work to which they are giving considerable attention, also transparencies on glass and celluloid. Mr. J. Milman Brown, of Shanklin, I. of W., who is an old exhibitor, sends some creditable landscapes, the best of which is No. 804, "Seeing Her off to Market." This picture is sold from the gallery. Mr. Clarence James has a frame of four studies, in which a child is attempting to instruct a pet dog, and with apparently variable success. The subjects are happily conceived and well carried out. Mr. W. Rooke has an enlargement, "Newquay Harbour and Beach." Mr. Henry Reeves shows three interiors, good in tone and delicate in treatment. Mr. G. B. Bradshaw has two subjects, Nos. 810, "Life," and 811, "Still Life." We like "Life" the better of the two; the repose of features is good. Mr. Walter D. Welford has two frames of good instantaneous pictures, and a frame of very creditable transparencies; for the latter he takes a second bronze medal.

Mr. R. W. Robinson is represented by a series of composition pictures and portraits. Nos. 816 and 817, "Studies of Heads," are wonderfully soft and delicate. These found a purchaser on the first day of the exhibition. No. 821, "It was a Lover and his Lass," is a fine composition; the subject is well chosen, the pose is excellent, and the tone of the picture most artistic. This has also found a purchaser. We also like No. 822 by this artist, "Don't you Wake!" a cleverly treated genre picture.

Mr. S. N. Bhedwar has two pleasing and well-rendered pictures.

Mr. J. P. Gibson, of Hexham, is to the front with some of the best work in its way in the gallery. He deservedly wins a first bronze medal for No. 830, "When the Day Burns Low." It is full

of tender beauty, and is, of its class, one of the gems of the exhibition. All of Mr. Gibson's work is of very high order.

Mr. Samuel J. Barrett shows a frame of six portrait studies, which are very vigorous.

Mr. A. Hendrey, of Godmanchester, is represented by several landscape studies and a series of fog landscapes, entitled, "A Day in a Fog," taken with widely varying exposures. The effect is most interesting, and one looks at Mr. Hendry's fog studies with a feeling vastly different from what one experiences when enveloped in that peculiar atmosphere which he portrays. Some very creditable landscapes and interiors are also shown by Mr. Joseph Smith. Mr. Wesley W. Fry has a good picture in No. 862, "Cullercoats Bay." Following the highest authority, we leave the "good wine" until last, and have yet left us to refer to the truly magnificent class of professional portraiture represented in the works of Mr. W. W. Winter, of Derby, and Mr. W. J. Byrne, of Richmond, Surrey. The productions of these artists are of a distinctly differing type, but each has attained to the highest excellence in his own methods. The judges were so impressed with the high order of the work sent in by these gentlemen that they were compelled to give the highest award, a first-class silver medal, to each of them.

Mr. Winter's pictures are in sepia-toned platinum. Of his collection, the finest specimen is No. 860, "Mrs. Clarkson," a picture of extreme delicacy and richness of tone; this carries off the first silver medal. Scarcely less beautiful in tone and artistic merit is No. 858, "The Misses Hewson," a very striking picture, which has found a purchaser at four guineas.

Mr. Byrne's portraits, which are silver prints, are also of great excellence; nothing finer of their class is to be seen in any public exhibition. He takes premier honours for No. 863, "Portrait of Charles Hassell," a truly grand picture. His portraits of children—a series of character studies—are also very fine.

The amateur department is unusually strong this year, and comprises many studies which would do no discredit to the profession. Following the catalogue here also, we have first a series of enlargements by Mr. Henry Tonkin, of Penzance. They are very creditable work indeed, and Mr. Tonkin is to be congratulated on taking a first bronze medal on his first appearance at this exhibition, for No. 924, "Boats at the Pier, Mousehole." The Rev. H. B. Hare, of Frome, a constant exhibitor at the Polytechnic, takes a second-class silver medal for a meritorious, well-handled picture, No. 930, "The Taker Taken." Mr. Hare, who always does very conscientious work, has made steady and decided progress, and we are glad to see him emerge from the "bronze" into the "silver" age.

Mr. Ernest Beck sends a series of landscapes and interiors, exhibiting careful work. The interiors are very delicately treated; we like best No. 942, "The Ambulatory, Gloucester Cathedral." Mr. Alexander M. Gillespie shows four good landscapes and a composition picture. Mr. T. B. Sutton has a picture of considerable merit in No. 949, "Stepping Stones."

Mr. A. G. Tagliaferro has a series of (genre) characteristic studies, well-toned, vigorous, and meritorious work; the subjects, however, might in our opinion have been more happily chosen. A first-class bronze medal is awarded to No. 953.

Mr. C. Court Cole shows several ecclesiastical interiors, and receives a first bronze medal for No. 956, "Cathedral Choir, Christ Church, Oxford," a very good, well-lighted, and harmonious picture.

Mr. A. R. Dresser has several enlargements, and Mr. John E. Austin two instantaneous studies, for one of which, "Chaff," No. 968, he receives first bronze medal.

Mr. G. Soltan-Symons, of Plymouth, contributes eight pictures from one negative to illustrate various methods of printing; an exhibit of interest and assistance to amateurs. The Rev. G. E. Hermon, of Doublebois, sends some highly creditable enlargements, and receives a second bronze medal for No. 978, "Tomb in Cloister of St. Maria de Monserrato, Rome," a somewhat difficult subject, successfully rendered.

Mr. H. Dudley Arnott has several studies, including a good set of three interiors, Norwich Cathedral. Some very fair work is also contributed by Mr. Victor J. Hatfield, Miss Rachel Barclay, J. Richards, and Dr. Campbell and Mr. A. Stieglitz. The department also included an enlargement of "The Bay of Panama," wrecked on the coast at Nare Point a few miles south of Falmouth in March last, contributed by Mr. A. Pendawes Vivian, of Bosahan; and a splendid collection of photographs—enlarged by Messrs. Morgan and Kidd, and specially for this exhibi-

tion—taken by Mr. R. V. Sherring, F.L.S., of Falmouth, and Hallatrow Court, Bristol, representing a large number of tropical and sub-tropical trees and plants flourishing in gardens at and in the neighbourhood of Falmouth. The enlargements are about 3 feet by 2 feet, twenty-six in number, and formed quite an exhibition in themselves. All the pictures are from Mr. Sherring's own negatives, and are of high artistic merit. The collection is unique, of much interest to the photographer, and of great value to the student of botany.

On Thursday evening, Aug. 27th, a grand lantern entertainment was given by Mr. W. Brooks, of Reigate, comprising a series of views of the Tower of London; also some of the state apartments at Windsor Castle, taken by special permission of Her Majesty the Queen during the Jubilee festivities. The descriptive lecture was by Mr. Peasgood, of London. The whole affair was a big success, and given before a crowded and enthusiastic audience.

On Saturday (the last night) there was again a crowded audience; the admission being as usual reduced to sixpence. The Hanoverian band enlivened the evening with some good music, and the fifty-ninth Annual Exhibition of the Royal Cornwall Polytechnic Society finally and successfully closed at 10 p.m.

Although the weather during the first three days was most unpropitious, the receipts for admission during the week were in excess of last year.

GLASGOW INTERNATIONAL PHOTOGRAPHIC EXHIBITION.

[FIRST NOTICE.]

THE Glasgow International Photographic Exhibition, which has been opened this week, is the largest and most interesting that has been seen in Scotland. The pictures exhibited are generally fine in quality, and there are few or almost none of the poorer type. There are upwards of 1,100 frames, besides trade exhibits, and in addition there are a number of cases of apparatus shown. The classes for professional and amateur work have been separated in portraits, enlargements, and lantern-slides, but in all the other classes the professionals and amateurs have been put together, the one against the other, and on the whole the exhibition does not suffer by this arrangement.

In the professional class of portraits some very good work is shown by Messrs. Tunney and Company, Warneuke, Byrne, Van der Weyde, and Alexander Aytoun, jun. At the end of the largest room there is exhibited a huge enlargement done by Van der Weyde, 9 ft. by 7 ft. and two other enlargements of fine quality are shown by the same exhibitor.

The landscape class is a very large one, and the quality of the work shown is exceptionally good, especially in the larger sizes. The other classes of marine, clouds, animals, and interiors are interesting. There is some very good hand-camera work, and some interesting figure studies. We have not at present space to notice these in detail, but shall do so in succeeding numbers. The exhibits come from all parts of the United Kingdom as well as from Russia, Italy, Germany, France, and other parts of the Continent.

The champion class, as was to be expected, is a very fine one. Most of the pictures shown are well known and have already been medalled. There is a most artistic exhibit of eleven sepia platinotypes, 15 by 12, of the Scottish Lords of Session by William Crook, Edinburgh, and in this class there are also fine exhibits by Lafayette and Winter.

The photo-mechanical section is a very large one, and the restrictions imposed on the previous classes do not apply to this, the only stipulation being that the pictures had to be entered in sets of six. They include specimens of photogravure by Messrs. T. and R. Annan, Bouroud, Valadon and Company, and others, photo-etchings by Colls, and a very large exhibit of autogravures and autotypes by the Autotype Company. There is also an interesting exhibit of chromo-typography by the Photochrome Engraving Company of New York.

LIST OF AWARDS.

Open to Professionals only.

Class 1.—Portraits (whole-plate and over): Special silver, Van der Weyde; silver, (51 to 54) W. M. Warneuke; bronze, (1 to 4) W. W. Winter; bronze (ex.), G. Gruel.

Class 2.—Portraits (under whole-plate): Silver, (74) Harold Baker; bronze, (75) W. J. Byrne.

Class 3.—Enlargements (any size; portraits only): Silver (102) Van der Weyde; bronze, (92) T. R. Annan and Sons.

Class 4.—Enlargement (any size; other than portrait): Silver, (121) Alexander Bros.; bronze, (108) T. R. Annan and Sons.

Class 5.—Lantern Slides (any subject): Silver, (129) G. W. Wilson and Sons; bronze, (129a) West and Sons.

Open to Amateurs only.

Class 6.—Portraits (whole-plate and over): Silver, Prince Antonio Ruffo; bronze, (131 and 136) Clarence B. Moore.

Class 7.—Portraits (under whole-plate): Silver, withheld; bronze, (159) W. J. Jenkins.

Class 8.—Enlargements (any size; portraits only): Silver, withheld; bronze, (180) W. H. Kitchen.

Class 9.—Enlargements (any size; other than portrait): Silver, R. H. Elder; bronze, (188) W. Snell Anderson.

Class 10.—Lantern Slides (any subject): Silver, (224) John E. Austin; bronze, (248) Arch. Watson; bronze (ex.), (221) Andrew Pringle.

Open to Professionals and Amateurs.

Class 11.—Landscape (whole-plate and over): Special gold, (282) David R. Clark; silver, (262 to 265) H. P. Robinson; silver (extra), (310) A. Horsley Hinton (for artistic excellence of picture, "Where Swaying Reeds"); bronze, (328) John G. Pratt.

Class 12.—Landscape (under whole-plate): Silver, withheld; bronze, (394) J. A. C. Ruthven; bronze (extra), Mrs. Jane N. Hignett.

Class 13.—Marine and Clouds (any size): Silver, withheld; bronze, (407) Clement Millard.

Class 14.—Animals (any size): Silver, (435 to 438) J. Catto; bronze, (434) C. Reid.

Class 15.—Outdoor groups (any size): Silver, (401) Karl Greger; bronze, (468) F. Brennan.

Class 16.—Architecture (any size): Silver withheld; bronze, C. V. Shadbolt.

Class 17.—Interiors (any size): Silver, (486 to 489) C. Court Cole; bronze, (482) W. J. Byrne.

Class 18.—Still Life, Flowers, etc. (any size): No award.

Class 19.—Flashlight (any size): Silver, (497) John Stuart; bronze withheld.

Class 20.—Instantaneous (half-plate and over): Silver, (510) W. Snell Anderson; bronze, (505a) H. Symonds.

Class 21.—Hand Camera (seaside and marine): Silver, (539) J. W. Wade; bronze, Arch. Watson.

Class 22.—Hand Camera (other than seaside and marine): Silver, withheld; bronze, (553) W. Snell Anderson; bronze (ex.), (554) R. H. Elder.

Class 23.—Stereoscopic Transparencies: Silver, (573) W. Snell Anderson; bronze, Fred Mackenzie.

Class 24.—Genre (groups or figure studies): Silver, (589) H. P. Robinson; bronze, (617) Robert Terras.

Class 25.—Scientific: Silver, (644) R. Kidston; bronze, (641) W. Lamond Howie.

CHAMPION CLASS.

Gold Medal: W. Crooke (Edinburgh), for series of portraits of Scotch Lords Justices.

Gold Medal: Lyd. Sawyer (Newcastle-on-Tyne), for his whole exhibit.

LADIES' COMPETITION.

Silver Medal: (807) Mrs. Blanche G. Bennetto.

Bronze Medal: (810) Mrs. Jane N. Hignett.

SPECIAL AWARDS.

Silver Medal: Ralph W. Robinson, for series of "Artists at Home."

Silver Medal: Countess Loredana da Porto-Bonin, for whole exhibit.

APPARATUS.

Medals were awarded as follows:—(1) W. Middlemiss, for Barr and Strand's "Lantern Slide-making Apparatus." (2) Geo. Mason and Co., for general excellence of exhibits. (3) James More and Co., for hand stereoscopic camera. (4) J. Lizars, for developing lamp. (5) W. Watson and Sons, for excellent workmanship in cameras, etc.

PHOTO-MECHANICAL WORK.

We had not received the awards in this class at the moment of going to press.

The judges were:—Photographers: Messrs. Valentine Blanchard, Adam Diston and Richard Keene. Artists: Francis Powell (President R.S.W.) and Wm. Young (R.S.W.) The special

edges in the Photo-Mechanical Section were Messrs. Robert Blackie and W. B. Blackie.

The Exhibition Committee consists of—President: John Morison, jun. (President, Glasgow and West of Scotland Amateur Photographic Association). Vice-President: Thomas Taylor. Committee: R. H. Elder, D. M'Corkindale, M.D., Archd. Watson, W. J. B. Halley, W. Miller, Andrew Brown, J. C. Oliver, David R. Clark, M.A., Andrew Lithgow, John Ure Primrose, Patrick Falconer, Robert Dalglish, R. B. M. Stewart, Wm. Lang, jun., F.C.S. (President), and J. Craig Annan (Vice-President of the Glasgow Photographic Association), John Stuart, Prof. E. J. Mills, D.Sc., F.R.S., T. N. Armstrong, Robert Harris (Hon. Vice-President, Paisley Photographic Society), T. L. Patterson (President, Greenock Camera Club), H. E. Gordon, of Aikenhead (President, Clydesdale Camera Club), George Sherriff (President, Falkirk Photographic Society). Hon. Treasurer: Hugh Reid. Hon. Secretary: Wm. Goodwin, 3, Lynedoch Street, Glasgow.

Societies' Meetings.

Birmingham.—A meeting was held at the Midland Institute, on the 27th ult., Mr. W. Jerome Harrison, F.G.S., in the chair. Favourable reports were read of the Leicester and Arley and Fillongley excursions. Letters were received from the judge of the Leicester excursion competition (Mr. George Bankart) and the judge of the Arley and Fillongley excursion competition (Mr. Harold Baker), announcing their awards, as follows:—Leicester excursion, Mr. W. Rooke; Arley and Fillongley, Mr. A. J. Leeson. The business of the evening was the exhibition of the negatives sent in for the developing competition. Forty-eight sets of three plates each had been exposed, each set consisting of one plate over-exposed, one plate under-exposed, and the other plate about right exposure. Forty-four sets were applied for, the prize being awarded by the judge (Mr. Harold Baker) to Mr. J. T. Mousley for a very evenly developed set. Mr. Thomason said he should have preferred had the plates been exposed, say, in more open landscape than in a photographic studio. Mr. Middleton thought it impossible to expose forty-eight plates out of doors in a constant light. He also mentioned the case of a lens not covering so large a plate as it was advertised to cover. The Chairman mentioned that the Kew Observatory now undertook to test lenses and grant certificates on payment of a small fee. Mr. J. H. Pickard was the recipient on the 21st August, of a testimonial in the form of a lock-up stationery cabinet and desk, given by members of the Council on his retirement from the secretarial duties. The President (Mr. J. B. Stone), who has just returned from a visit to Japan, in making the presentation, remarked that it was not given with the idea of making any award for services rendered, but as a bond of friendship. Mr. Pickard thanked the Council for their unexpected gift, and briefly traced the progress of the club from its inauguration in 1885 to its present position.

Bournemouth.—The members of the Photographic Section of the Society of Natural Science, under the leadership of their Vice-President, the Rev. J. R. Husband, M.A., had an enjoyable outing to the New Forest on Saturday last. About a dozen camera men started by the 1.27 train from the East Station to Brockenhurst, and from thence made their way to the forest. With Queen's Bower as the base of operations, the party proceeded to secure most of the numerous picturesque bits in the near neighbourhood. From half plates down to the hand camera, all sizes were duly represented, and, in spite of rather dull weather many satisfactory negatives were obtained. In all, about fifty plates were exposed, comprising Paget, Ilford, Marion, Thomas, Barnet, and other well-known makes. Another outing is being arranged for Saturday, Sept. 5th, to Christchurch and neighbourhood, when the Section will cordially welcome any amateurs visiting Bournemouth who care to accompany them.

Brechin.—At a meeting of the committee of the above association held on the 27th ult., it was agreed that an effort be made to prepare sets of lantern slides illustrating the various industries in Brechin. The Secretary was instructed to write to the Manager of the East Mill Company and the various manufacturers in the town, asking permission for the members to photograph their machinery for this purpose. Should this endeavour be successful, it is intended to take up paper making and distillery work, etc.

Faversham.—The last summer excursion of the season took place on the 25th ult., when eight camera men paid a visit to Dover and had an enjoyable day, despite the inconvenience of the high wind that prevailed. The Hon. Sec. having secured passes for the Castle grounds, some excellent view points were found and a large number of exposures were made. The summer excursions being now over,

the next annual exhibition (which is to take place in April) is being prepared for. Prizes will be given for landscape, instantaneous, and architectural views, figure studies, enlargements, and lantern slides. A class will be provided for amateurs who are resident within the radius of the Faversham Union. Dr. Evers will offer a special prize for a frame of four local views, the exhibits to be afterwards presented to the Cottage Hospital. Specials will also be offered by Captain Hooper and Mr. W. C. Stunt. Intending members should apply to the Hon. Sec., Mr. Percy Dan, East Street, for additional particulars.

Hackney.—The ordinary meeting was held on the 27th ult., Mr. C. F. Hodges presiding. Work was shown by Messrs. Gosling, Barton, Roder, etc., and duly criticised. Mr. Harverson asked which was the best silver paper to use for procuring good prints. The Chairman said he had found nearly all produced good prints, but he preferred Edwards'. Mr. Reynolds had got good prints with Scholzig's. Durand's was mentioned as being a good paper. The Secretary presented the Society with a guide-book to the north of Ireland. The Chairman then called on Mr. J. O. Evans for his paper and demonstration on bromide enlarging. Mr. Evans then proceeded to say that as far as the paper went he would be very brief, for he thought demonstration was more interesting. With the aid of a powerful oil light he proceeded to expose a negative of some cattle on Ilford's rapid bromide paper, giving an exposure of twelve minutes. Blocking the landscape out, he by double exposure printed in some clouds. The resulting picture was exceedingly good, and received due appreciation by the members. He did not use a clearing bath, but merely washed the print with cotton wool. The Chairman then proposed a vote of thanks, which was duly carried, and announced that the excursion to Dorking would be held on the following Saturday.

Holborn.—On the 28th ult. was the monthly lantern night. The members present were entertained by an excellent show, including some splendid tree studies and snow scenes by Mr. Evans, some by Mr. and Mrs. Dear, and a large collection by Mr. Chang. The latter was mostly from negatives taken at the Southern Counties' Cyclists' Camp at Dorking at the beginning of August.

Jersey.—A meeting was held on the 25th ult. to judge the photographs taken at the last excursion to St. Peter's Valley. The President, Captain Lamb, occupied the chair. No less than forty photographs were laid, which is the largest number taken at one excursion this year—and this in spite of the fact that "one competitor made no return" (!) The ballot occupied a considerable time, and at the conclusion the Secretary announced Mr. Hammond Spencer's "Jersey Lanes" an easy winner with seven votes. Miss Le Cornu's St. Peter's Valley was second with four votes, and Captain Lamb third with three for a similar view to Mr. Spencer's. Mr. Spencer, a lately-joined member, but an old wet-plate worker, is to be congratulated on this decisive victory. The defeated members, keen for another try, were informed the next excursion would be as soon as September 4th to St. Lawrence Valley. Mr. Hammond Spencer then read his paper on "Halation," showing various negatives and prints, practically "backing" a plate, etc. During the discussion following, Mr. Andrews questioned the probability that halation was caused entirely by reflection from the back of the plate, drawing attention to Lippmann's endeavours to obtain colours, in which he used plates backed with mercury. He preferred the theory that the bright rays of light were scattered in the film. The President then gave his experiences with halation. He said reflection from the back of the plate was certainly not the whole cause of halation. He had films and paper negatives which showed quite as much halation as glass plates. He then explained the "creeping" action of light in the film itself, and that if the developer were allowed sufficient time to soak into the film, it would develop the effects of this light, and then the result of the reflection, which would be at the back of the emulsion. He said he thought halation could always be avoided, if the negative image were confined to the top surface of the emulsion. This is simply a question of exposure and development. The exposure must be made as short as possible, and the development as rapid as possible. He used England's slow plates and the pyro-soda developer without bromide, and had a number of glass plates treated as above, which do not show the slightest trace of halation. A vote of thanks to the lecturer terminated the proceedings.

Omega.—At the ordinary meeting held on the 10th ult., a paper was read by Dr. R. W. Branthwaite (the President) on "The various Forms of Lenses, their Construction and Use." The paper was illustrated by lime-light, and proved highly instructive and interesting. The well-known opticians, Messrs. Taylor, Taylor, and Hobson, of Leicester, kindly lent for the occasion sets of lenses, complete and incomplete, with grinding tools and other apparatus used by them in the manufacture of lenses, and these were examined with much interest by the members of the Club. At the close, a number of the points raised by the lecture were freely discussed.

To Correspondents.

All communications for these columns are to be addressed to **The Editor, "Amateur Photographer," 1, Creed Lane, Ludgate Hill, London, E.C.**

RULES.

1. Write clearly and distinctly on one side of the paper only.
2. Write each Query or Answer on a separate sheet of paper.
3. Write the name and address legibly on the back of each communication, and sign all Queries and Answers with name or *nom de plume*.
4. All matters for these columns MUST be received by TUESDAY MORNING'S POST.
5. The Editor does not undertake to answer questions by post.
6. In answering Queries, correspondents are requested to mention, in every instance, the number and full title of the query referred to.

QUERIES.

4990. **Toning Prints**—What is the reason of prints turning very brown in fixing solution, the latter being 2 oz. hypo soda to 2 oz. water; is it too strong? The gold toning solution I bought ready-made up. Will any one assist by giving me a good toner and fixer easy to make up, as I have no experience yet; also quantities required, how to make it up, and how much is required to tone a sheet of sensitised paper, say a kind of purple tone?—E. L. B.

4991. **Negative Touching Up**—Would any one kindly assist a beginner, in explaining how to touch up negatives; kind of brush to use, and what material in the way of paints, etc., to do it with? The negatives are not varnished yet. Also best varnish to use, and how to apply it, and oblige—E. L. B.

4992. **Beginner wants Help**—I have just commenced amateur photography, and do not yet understand developing, fixing, and toning properly. I have had to buy chemicals ready-made. Could you help me by giving a good developer and fixing for plates, toning and fixing solution for prints, quantities to buy and quantities to make up, how to use them and the time they will keep? I use Thomas' quarter-plates in Lancaster's Instanto quarter-plate. E. L. B.—[Buy "Experimental Photography" (Leaper), 1s.—Ed. AMATEUR PHOTOGRAPHER.]

4993. **Pyro Developer**—I have been using the Paget Prize pyro developer, and have found that all the negatives have a bluish stain on them. I was told it was due to the citric acid in the developer. Can anyone tell me how to prevent it, and also if it really is caused by the citric acid?—X. Y. Z.

4994. **Watkins' Exposure Meter**—Will someone who has used a Watkins' Exposure Meter tell me if it can be relied on for giving accurate exposures?—X. Y. L.

4995. **Jervaulx Abbey**—Will some kind reader inform me if amateurs are allowed to photograph Jervaulx (Yorks), and the number of plates advisable to take for this interesting and notable abbey?—F. LINTON.

4996. **Montreal and New York, Customs at**—I shall be much obliged by anyone informing me whether the officials at the Custom House at New York or Montreal would insist on opening dry plates?—NIGEL.

4997. **Enlarging Lantern Lamp**—Can any brother photographer give me his experience of the lamp supplied with Lancaster's enlarging lantern? Mine has iron body and chimney (no glass). In my handist gives great heat and scarcely any light. I use paraffin oil. Hints gratefully received. Being resident abroad I am obliged to write for help.—ITALIA.

4998. **Lyme Regis**—Wanted the use of dark-room for changing plates in the daytime, and possibly for development if wet. For the first fortnight in September. Address, Bradford House, Lyme Regis, Dorset.—W. A. J. CROKE.

5000. **Speed of Shutter**—I should like to know the quickest speed the Thornton-Pickard time and instantaneous shutter is supposed to give?—W. H. ELLIS.

5000. **Pinholes in Negatives**—I have been using Ilford ordinary plates, and out of two dozen plates exposed, I have one good negative, that is to say only one free from spots. Can you explain this? I have used Ilford pyro developer and been most careful in pouring developer over every plate, also I have tried dusting them. I have never had this occur with Ilford plates, and I nearly always use them, but a friend has just told me that he has had the same bad luck with the same plates.—A. L. B.

5001. **Printing Processes**—Can any reader of the AMATEUR PHOTOGRAPHER tell me of a good general printing process? I do not want one in which the

developer has to be made hot, as in the Platinotype hot bath. Is Kallitype easy to work, and can good results be obtained with it? Ordinary sensitised paper is not required. Must be a process easy to manipulate.—NIEPCE.

5002. **Copying**—What rule governs copying photographs by the camera? I find I can get a much larger and clearer image with a 5 by 4 camera and lens (portrait) than with a whole-plate portrait or rapid rect. lens, for on bringing the larger camera near enough to get the necessary amplification I get nothing but fuzziness, which no amount of stepping down will remedy. I have noticed the same difficulty in getting large heads of sitters, the small camera giving a much larger one than the others. Is it a question of long and short focus lenses, as it seems if I could rack the whole-plate camera out far enough I could get the result desired. Is there any other means of getting large copies proportional to the size of the lens employed? Both the lenses not perfectly at full distance, but of course this would only give a very small copy of a c.d.v. I may add a friend's cabinet lens when put close and stopped down gives the necessary amplification; is this a lens of shorter focus?—C. J. TABOR.

5003. **Self-Toned Paper**—Will someone who has had experience kindly tell me if self-toned paper is satisfactory. Is there not some objection to it or surely it would come into more general use?—BAD TONER.

5004. **Varnishing Negatives**—Is this really necessary? If so, is there any satisfactory means of protecting the films other than the (to me) very primitive way of pouring a pool of varnish on the plate, etc.?—VARNISHED FINGERS.

5005. **Toning**—What is the advantage of the following over borax only? Borax 82 grs., acetate of soda 45 grs., bi-carbonate of soda 22 grs., distilled water 1 pt.; add 1 gr. chloride of gold to 5 grs. of this solution. I have seen it given in one formula, "add a few drops of ammonia." I tried it with the result of depositing the gold. I know a friend who has had a borax bath in use for years, adding gold only. How much gold 90 grs of borax will neutralize the acid of would be interesting to know.—NO CHEMIST.

5006. **Fixing**—I beg to tender my sincere thanks to Mr. W. H. Ellis, "Pen," "Coptic," and "Carbonate," for their answers last week to my query re density. Could any of the aforesaid gentlemen kindly tell me why some negatives taken on the Barnet plate and developed with hydroquinone, took over an hour to fix? I shook the hypo up well before using. The solution was very strong.—REVILO.

5007. **Film Negatives**—Will some reader inform me the best method of storing 5 by 4 film negatives so that they will keep flat and be easily got at?—RIGG.

5008. **Snap Shot Developer**—Will some brother amateur kindly give me a good formula for above, to develop Paget xxxxx plates when exposed with shutter. One that will do for Ilford red label as well preferred? A reply will greatly oblige.—GOOD OLD WALSALL.

5009. **Photographing Oil Painting**—I want to take a cabinet photograph of an oil painting which is in a frame, and I want to do it without unframing it. Will some brother who has had experience kindly inform me as to the best way to shade, what exposure to give, using Ilford ordinary plates and f/16 stop, and what developer is best to use, hydroquinone or pyro? I want to know how to shade it so as to stop the reflection of the glass in the frame. By answering these questions you will greatly assist.—GOOD OLD WALSALL.

5010. **Ghost Negative**—Can any of your readers inform me how I can manage to produce the filmy aspect of a ghost in photography?—OLD UN.

5011. **Damaged Negatives**—On a recent tour I wrapped some Ilford plates in newspaper. I find on development that the printing has affected the plates, some appearing with reading matter right across. Is it possible to remove this? The chemicals employed in manufacture of the printers' ink seem to have acted on the plate.—BEGINNER.

QUERIES UNANSWERED.

- July 17.—Nos. 4863, 4865, 4866, 4868, 4871.
 „ 31.—Nos. 4900, 4907, 4909.
 Aug. 7.—Nos. 4923, 4934.
 „ 14.—Nos. 4947, 4950.
 „ 28.—No. 4964, 4970, 4974, 4989.

ANSWERS.

4952. **Hire of Hand-Camera**—I have a Facile I rarely use, and would lend it on receipt of satisfactory references or deposit if Mr. Ellis writes to me.—DETECTIVE (address with Editor).

4965. **Hastings**—"Viewfinder" will be at no loss for views should he go to Hastings. To begin with Hastings town: The Castle, West Hill, and the fishing huts of the old town will furnish many delightful "bits." If "Viewfinder" is a "snap-shottist," he will find plenty of work on the Promenade and by the large yachts. The early morning sale of fish, too, at the Fish Market would make an animated picture. As to the country, there is a ruined church at Ore, Ecclesbourne Glen and Fairlight are also regularly "done" by the amateur. The best spots, however, are Rye and Winchelsea, places which are quite worth two dozen plates. Pevensey, too, and, indeed, the whole of the coast line

adjacent to Hastings, will not be found wanting in interest or picturesque. A longer exposure has been required throughout this last August, as the light has been very bad.—VENI VIDI.

4966. **Penzance**—This has happened to others besides yourself. The cause, no doubt, is chemical action between the printer's ink and the negative. The remedy, unfortunately, is nil.—Pex.

4967. **Prints**—Paint out with Tylar's dead black the sky in your negative, which will give you a quite white sky in your print. Cloud effects can be printed in afterwards, but if you are only a beginner I would not try this just yet.—PERO.

4967. **Prints**—It is often impossible to get skies to print white. Sometimes a little can be done by local intensification, but the best way is to block the sky out entirely with black varnish on the film side of the negative, using a fine camel-hair brush or steel pen to paint the outline of the horizon, and then filling in the remainder with a large brush. Sometimes the sky only wants softening in; and the best way to do this is to coat the back of the negative with gold size, and dust on powdered black lead with a tuft of cotton wool. The latter is the better way when there is any shipping or bare branches standing out against the sky.—CAILLOU.

4967. **Prints**—If you want your skies to print white you had better block out the sky in the negative with Indian ink or some non-acidic varnish.—CARBONATE.

4967. **Prints**—In answer to "N.E.R." the reason you get the dark sky in your prints is because your negatives are so thin (as in your next query) that the light acts on the sky as quickly as it does on the foreground, and, of course, when the prints are finished they are very nearly the same colour all over, and are, of course, not worth toning. Another reason is you print in the sun, or when you tone your prints you tone them in a strong light, which completely spoils the prints, because the light fades the prints, although not noticeable at first, but by the time they are toned the sky is half as dark as the foreground. Prints should always be toned in a very dull light and turned face downwards while in the toning bath, and always keep them on the move. I think if you follow the foregoing instructions you will be able to get better coloured prints and lighter sky.—W. H. ELLIS.

4968. **Thin Negatives**—In reply to this query, there are three faults which can be made in exposing and developing plates which will make the negatives so thin that they will not be worth printing from, viz.: (1) The plate was either under or overexposed; (2) you used a weak or old developer; (3) or the plate was underdeveloped. All these faults put together would give a negative such as you describe, or even two of them would. The way to cure these faults is: (1) Think twice the exposure you had better give; if you are not quite sure, expose two plates each a different time, and see what kind of a negative they give; (2) always mix a fresh developer for each two plates, and use a clean dish, keeping a separate dish for developing, and never put away developer which has developed one plate; (3) always rather over-develop your plate before taking it out of the developer; keep the plate in the developer till there is something black showing on the opposite side of the plate. I think the answers I have given you will set you right provided you stick to them. I always use Lockyer's hydroquinone developer, price 1s. 3d. per half pint or 6d. for a sample bottle. It is to be obtained of W. Edwards and Son, 157, Queen Victoria Street, E.C.; J. Fallowfield, 146, Charing Cross Road; or of the manufacturer, J. E. Lockyer, 88, Evelyn Street, Deptford, S.E. Hoping you will in future obtain better results both at developing and printing.—W. H. ELLIS.

4968. **Thin Negatives**—This is caused by plates thinly coated, over-exposure, under-development, or an insufficient quantity of the reducing agent in the developer. The remedies for the above are obvious. Negatives already developed that are too thin to print from would be much improved by intensification. First bleach in a saturated solution of bichloride of mercury, then wash well, and then place in a solution of liquid ammonia, 1 part; water, 10 parts.—CAILLOU.

4968. **Thin Negatives**—This question has been asked and answered a good many times lately. You should either print under ground-glass or tissue paper in a subdued light. If this does not result in a good print, you may consider your negative is worth nothing.—PERO.

4968. **Thin Negatives**—These are the causes of your skies printing too dark. The remedies for both are (1) less exposure, (2) less alkali and slower development, (3) longer development. The latter is probably what you should turn your attention most to. Develop until, when looking at the plate in the dish, you can hardly see any traces of a picture left.—Pex.

4968. **Thin Negatives**—There are two causes—(1) over-exposure, (2) under-development. The remedy in both cases is obvious—use plenty of bromide and not too much alkali, and develop until detail has almost disappeared and the plate is quite black.—CARBONATE.

4969. **Hand-Camera**—I can strongly recommend the Omnigraph as a cheap, light, and serviceable hand-camera, capable of doing really good work. I purchased mine from Mr. Lamb, Photographic Dealer, 245, High Road, Kilburn, and he can show "A. H. H." numerous specimens of its work taken by himself, and also some taken by amateurs, and can thoroughly explain its working. I would strongly advise "A. H. H." not to get a second-hand one; it would be only a couple of

shillings cheaper, and possibly might have had careless usage, and not be in proper focus. I don't know Griffiths' camera, but I believe it is good value for the money, and should be worth seeing.—H. ALCOCK.

4969. **Hand-Camera.**—I think there is scarcely a pin to choose between the two. I find both work well, but think the addition of a good lens, such as they make at about a guinea extra, would make your work (if you are experienced) equal to a camera of three times the value.—PEPO.

4969. **Hand-Camera.**—They are both good value for the money. The Griffiths camera has dark slides, and the Omnigraph changing boxes for six plates. These can be carried to any number. I should say the Omnigraph was the better of the two.—CARBONATE.

4971. **Enlarging.**—I daresay you could enlarge with Lancaster's Instantograph lens by lamplight, but you would have to insert some filtering medium between the lamp and camera, such as a piece of ground-glass, otherwise you would get the flame represented in your resulting picture.—PEPO.

4971. **Enlarging.**—Lancaster's quarter-plate Instantograph lens will do for enlarging with, but you will have to use a rather small stop to get the picture quite sharp. A 4 in. condenser would hardly be big enough for a quarter-plate negative, as the diameter of the condenser should be at least as great as the diagonal of negative, which in a quarter-plate is 5 in. If you were to use a 4 in. condenser the corners of your negative would not be illuminated.—CAILLOU.

4971. **Enlarging.**—I should think the lens you mention would be quite good enough. A 4-in. condenser is not large enough for a quarter-plate; it will only take $\frac{3}{4}$ square. You must have a 5 in. for quarter-plate.—CARBONATE.

4972. **Circular Plates of Stirn's Secret Camera.**—I should not think you would be able to get them; they would probably be unknown. You would do much better to take your plates with you wherever you go.—CARBONATE.

4973. **Toning.**—Your bath is rather weak, and you don't tone long enough. Try two-thirds the quantity of water.—PEN.

4973. **Toning.**—I use the same formula as you do, and my resulting tones are a warm brown one. Perhaps you do not wash your prints enough before toning. I use cold water, not warm.

Chloride of gold	1 gr.
Bicarbonate of soda	3 "
Water	5 oz.

It is best not to keep this bath; only mix sufficient for immediate use.—PEPO.

4973. **Toning.**—The toning bath described in "Zulu's" query is a very poor bath. I have not seen it recommended in any books so far. Another thing, I think he has the wrong quantities; bicarbonate of soda ought to be 10 gr. and water 8 oz. The toning bath should never be warm in the summer and only lukewarm in winter. I give you a formula which I have used for some time and have had some prints toned very well with, viz.:

- (A) 15 gr. chloride of gold (1 tube).
- (B) 1 oz. of acetate of soda.
- (C) 1 dr. bicarbonate of soda.
- (D) 15 oz. of water (distilled water).

A costs 1s. 9d., B 3d., and C 1d., total, 2s. 1d. This bath must be kept for 24 hours before using, and when using take 1 oz. of this solution to 8 oz. of water. This will tone twelve prints (half-plate), provided the prints are well washed before putting them in the toning bath. The prints on this condition will take fifteen minutes to tone.—W. H. ELLIS.

4975. **Enamel Collodion.**—"Amateur" will find the following a very good enamel collodion, not forgetting to wax your plates before coating them with collodion, viz.:

- | | |
|----------------------------|---------|
| Alcohol | 1 oz. |
| Methylated ether | 1 " |
| Pyroxylin | 6.5 gr. |

—W. H. ELLIS.

4976. **Ventilation of Dark-Room.**—In reply to "Amateur." Make about four tin tubes in the shape of Z, and fix them in the wall of the dark-room in different places about 6 in. apart; the tubes should be about 3 or 3½ in. in diameter and should be painted dead-black inside. This kind of ventilation is both cheap and efficient; if you cannot make them yourself, get an ironmonger to make them for you cheap.—W. H. ELLIS.

4976. **Ventilation of Dark-Room.**—You had better put the red lamp outside the window. I should not think the dark-room would then get heated.—CARBONATE.

4977. **Enlarging Apparatus.**—Get a 12 by 10 camera that will rack out a long way, and place your ordinary camera with lens in it, so that the lens slips into the lens hole of the 12 by 10 camera, and cover it up so that no light can get in. Place the negative to be enlarged in the back of the smaller camera, where the ground-glass usually is (you will have to make a little frame to hold it), and then move the front of the smaller camera and the ground-glass of the larger until the picture is the right size and quite sharp. The bromide paper or plate you will have to fasten inside the 12 by 10 dark-slide. A large sheet of white paper at an angle of 45 deg. in front of the negative will send an even light through it. A piece of cardboard placed in front of the negative will do instead of a cap.—CAILLOU.

4977. **Enlarging Apparatus.**—I should strongly recommend you to get a good ready-made camera, such as Lancaster's Multum-in-Parvo. You require a bellows 12 by 10 or 10 by 8, according to size of enlargement, at one end of which is fixed a board, into which the flange of your lens must fit; at the other end a frame to hold, first, the ground-glass for focussing; secondly, the dark-slide containing sensitive paper or plate. See also answer to No. 4971.—PEN.

4978. **Norden Flap Shutter.**—I have found the Norden Flap a very useful shutter, and at the price should say it is not to be beaten. I use a very weak elastic band for hand exposures, and having set back the catch at bottom, open by means of the milled head and then let the band close the flap. I never have found any vibration when making hand exposures, but if strong bands are used with pneumatic release there is decided vibration. I do not consider this shutter at all suitable for quickly moving objects. It has one great advantage in giving more exposure to foreground than sky and so often securing good clouds. When focussing, I open shutter and hang the tube of pneumatic release over the spindle of milled head, which prevents flap closing. An elastic band wound round the brass gives a better hold for the tube.—J. H. G.

4979. **Devonport.**—I should be very pleased to put "Amateur" up to the best places to take in the neighbourhood of Plymouth and Devonport (than which there can be few more interesting), if he will communicate with me. Being in the neighbourhood of the sea, exposures have to be cut a little short. I find that Ilford ordinary and Paget xxx are thoroughly good and reliable plates.—C. HARRIS.

4979. **Devonport.**—"Amateur" will find plenty to do in Plymouth and neighbourhood. I have just returned from there, and might recommend the following bits:—Plymouth proper: The old Eddystone light-house, Drake's monument, Armada monument, old citadel gateway, all on the Hoe. Some good instantaneous bits may be found on the Barbican, on the east side of the town, about 7 a.m. in the morning. For the neighbourhood, I would suggest Ivybridge, Calstock, Cornwood, Lidford, and Maker, all within easy distance of Plymouth. I don't know much of Devonport. I used Ilford white label, and gave quick exposures, as the light was splendid.—P. A. CREEKE.

4980. **Mountant.**—A very good mountant made with gum arabic consists of the following: Pale-coloured gum arabic, in clean lumps, 4 oz.; distilled water, 8 oz. The gum must be washed well before using by placing it in a half-pint cup, and adding the same quantity of water. Stir briskly round two or three times, and pour off water. This carries off any dust or impurities. Now add the distilled water, and stir every now and then until the gum is dissolved, then bottle it, taking care to keep the bottles filled as full as possible. The only objection I have to the mountant is that it will not keep more than about a fortnight, although the addition of a little carbolic acid will help to preserve it longer.—KENNAL.

4980. **Mountant.**—In answer to "Kalob Seilig," the formula he requires is, I think, a very poor one and will not keep any length of time. The best mountant is "starch paste." I think you will find this will suit you.—W. H. ELLIS.

4981. **Frames for Bromide Opals.**—I think "Scot" could get what he wants from Adams and Co., 26, Charing Cross Road, W., or from Percy Lund and Co., 13, St. John's Street, Bradford.—CARBONATE.

4981. **Frames for Bromide Opals.**—You may get what you want at Robinson's, or of Fallowfield.—PEPO.

4981. **Frames for Bromide Opals.**—Messrs. Percy Lund and Co., Bradford, sell some "Silverine Hangers" which might suit you.—PEN.

4982. **Hinton's Combined Toning and Fixing Bath** gives splendid results. He will find it slow at first, but it will tone more rapidly after.—KENNAL.

4982. **Hinton's Combined Toning and Fixing Bath.**—Very good of its kind, but I prefer using toning and fixing bath separate. There is not much trouble saved by using the other.—PEPO.

4983. **Dark-Room Lamp.**—You can get a dark-room lamp quite good enough for changing plates and developing away from home for 6d. or 1s. from W. Tylar, 57, High Street, Aston, Birmingham. You had much better get one of these than make one.—CARBONATE.

4984. **Dead Black.**—I always use Cyclists' black enamel, which dries quite a dead black, price 6d. and 1s.—PEPO.

4984. **Dead Black.**—A good dead black is made by grinding lamp or ivory black into a paste with Japanese gold size.—PEN.

4984. **Dead Black.**—Make a mixture of lamp black and gold size with just enough oil of turpentine to make it thin enough to use with a camel-hair brush. You can get it ready-made from Tylar, of Birmingham, or from Adams and Co., in the Charing Cross Road.—CARBONATE.

4985. **Adhesive Mounts.**—I believe these are still manufactured by Messrs. Harold Senior and Co., 88, Norwood Road, London, S.E.—CARBONATE.

4986. **Double Albumenised and Sensitised Paper.**—The "Rives" paper, manufactured by Blanchet Frères and Kleber, is undoubtedly the best for albumenising. Marion and Co. are the sole agents in England for the raw paper. The "Saxe" paper, manufactured by Steinbach, is good also, but the surface is hardly as good. Yellow glass and plenty of

light during sensitising will not hurt, as the paper is not very sensitive.—CAILLOU.

4986. **Double Albumenised and Sensitised Paper.**—You must either use "Rives" or "Saxe" paper, procurable from any dealer. Albumenised paper you can get from the Albion Co., or the "Cross Sword" from any dealer. With regard to glass, if you get the proper shade of yellow you can admit more light with security than if you use ruby. Personally, I prefer the latter.—PEN.

4987. **Photographic Portfolio Club.**—I should be very glad to receive "Auburn" into the Club for which I have the honour of being Secretary. We have already one lady member, and would like to have more. I will forward copy of rules to "Auburn," giving all particulars (address with Editor), on application.—Geo. D. NICKELS.

4988. **Dry Plates.**—Why should you give them double exposure? Good plates, unless they are extra-rapid, improve with keeping. Try shorter exposures, and a stronger developer with plenty of bromide and pyro in it. Never mind if they develop slowly. Hydroquinone would, perhaps, give better results.—PEN.

4988. **Dry Plates.**—I am afraid from what you say that your plates are useless. You will not be able to rely on them at all, and you had better throw them away.—CARBONATE.

EDITORIAL.

SPECIAL NOTICE.—We are very pleased to find that replies in this column are so much appreciated, but we should be very grateful if those requiring advice would send their letters to us before TUESDAY MORNING'S post if possible. The time occupied in replying in this column is very considerable, and owing to the often late receipt of letters, many matters have to be left over each week. This we much regret.—ED. AM. PHOTO.

E. L. NELSON, JUN.—The yellowness of the sky should not exist, and is probably due to the use of ordinary alum in the toning bath. The picture is quite good enough for a competition.

P. W. SHAW.—(1) Good; a little too black on the right. Coat the back of the plate with yellow matt-varnish here. (2) Fair; cut an inch off foreground. (3) Good. (4) Good. (5) Good. (6) Poor; camera not straight. Please let us know how you get such black tones. (1) Portrait very fair. (2) Good. (3) Under-exposed. The rucks in background suit these.

A. SUNSCINER.—(1) Fair (2) Poor man! why cut his legs off? The face wants working with stump, as now it looks like a half-caste, a great deal too dark. (3) Flat and poor; would give a better print on gelatin-chloride or bromide. (4) Camera all askew, and taken the wrong way of plate. Cut an inch off grass, and use gelatin-chloride paper. (5) Flat; half an inch less foreground, and try gelatin-chloride. (6) Good technically, notwithstanding camera being askew. With these improvements, 1, 3, 5 up to standard.

L. ELLIS.—Reporting fee duly to hand.

G. GORDON LOWDER (China).—Your instructions as to purchase of camera to hand. Will advise you by early mail, and follow your instructions as to communicating with your agents.

W. H. ELLIS.—On page xlvii. there is a diagram giving eight pieces of $\frac{1}{4}$ by $\frac{1}{4}$, four $\frac{1}{4}$ by $\frac{1}{4}$, and five $\frac{1}{4}$ by $\frac{1}{4}$ French plates can be obtained in this country.

A. G. J.—(1) Treat the blue prints with a solution of caustic soda or potash 4 : 100 till brown, then wash well; a richer brown may be obtained by treating the yellowish brown image thus obtained with a very dilute solution of gallic acid about 1 : 100. (2) You must either place your plates glass side to the lens or else print through the glass. Send us up a negative and print showing fault.

E. L. WOOD.—Yours is a whole-plate camera and you would therefore require a whole-plate lens, such as Hockin's Desideratum lens of 10½ in. focus, or else one of Wray's of same focus.

T. O. B. (Christiana).—(1) The Photinus lantern is an excellent instrument and will give you every satisfaction for general use. (2) None we can recommend better. (3) Yes, we prefer the Photinus vegetable oil.

R. V.—You can only do what you want by enlarging it. We can hardly spare the room to give you instructions for this, which would be found in our book numbers or in Wall's "Dictionary of Photography," and other text-books.

BASILEUS.—The sensitometer number of plate named is 19 deg. W.

SPARHAM CAMP.—(1) This would be improved by coating the back of the plate with yellow matt varnish under the organ loft. To reduce the halation wet a small piece of wash-leather stretched over the tip of the finger with methylated spirit, and then gently rub the patch. (2) Good. (3) Good. (4) The whole of the lower part of the negative wants yellow varnish on back. You certainly will get far better results on matt-surface Oberetter paper; but probably rapid bromide paper would give you the best results. With careful printing your negatives should yield first-class pictures.

R. A. R. BENNETT.—We do not know the name at all; probably he makes for the trade only, in which case it would be difficult to get his address.

W. J. CABLE.—Soaking the prints in water is the only thing you can do. You might try laying sheets of blotting paper on the top print and keep it well wet

with water, then split the card when soaked, and proceed in the same way with the successive layers of card. Why not send us up a note on Pembroke and Tenby and the prints. We promise not to be too hard on you.

L. B.—We should be inclined to state that by some means you had got more than a trace of hypo in your developers. Can you send us up some exposed and under-developed films and also some not reduced?

FRED. C. BARTON.—We might perhaps think that half an-inch less foreground in your picture would not hurt it, and it ought to stand a very good chance in our competitions. The printing process you have chosen is just suitable.

PUB.—Your negative was received smashed to atoms, but we must confess to being quite at sea as to the cause. Can you not give us some more particulars?

W. B. P.—(1) Over-exposed and under-developed. (2) The background spoils this and it is slightly over-printed. (3) Under-developed. (4) Very fair. (5) Poor. (6) Over-exposed and under-developed. Your prints want trimming more carefully. Let us see some more work in a month or so. You might try slow bromide paper.

H. W.—(1) The developer is a one solution, but the carbonate of soda might be used as a separate solution. (2) It is apparently a 10 per cent. solution of soda sulphite in which more eikonogen crystals are placed than it will dissolve.

P. BETLEY.—Transparencies are eligible for the competition.

F. EVERETT.—The Secretary of the Postal Microscopic Society is Mr. Alfred Allen, Cambridge Place, Bath; entrance fee, 5s.; annual subscription, 10s.; dating from October 1st each year. Other particulars sent by post.

II. WELD BLUNDELL.—Have sent AMATEUR PHOTOGRAPHER; will communicate with you as to the other point in your letter.

GALES.—No. 1. Fairly good, but might have had a little longer exposure. No. 2. Very good, though the arrangement of the two tennis rackets is not good. No. 3. Slightly over-exposed and spoilt by the cutting off of part of the leg on the left of the picture. No. 4. Over-exposed; the light also has got in and fogged the top right-hand corner of the plate. You are, however, doing very well, and the view of the bridge is admirably selected.

F. C. KERDEL.—The prints are fairly good. No. 1 is a trifle over-exposed; No. 2, under-developed; No. 3 would be better if printed a little darker; No. 4 also slightly over-exposed. Study your posing a little more, and send us some further specimens in a few weeks. As regards the other question, use the whole lens, decidedly.

TE WIRIMU.—It is a little difficult to locate the cause of the stains upon such spare data as you give us; it looks, however, very much as though the prints had come in contact with metal, either a washing tank or something of that kind. Let us hear your exact procedure.

II. H. CORR.—It is almost a hopeless task, but wet your negative thoroughly, then cover up the denser half and expose to the sunlight. You might also try yellow mat varnish on the thin half. You are probably using your developer too strong. Try adding more water to it. Fallowfield's we do not know, but Lockyer's has worked well with us.

A. C.—If you had a copy of Wall's "Dictionary" you would have found what you wanted on p. 259, second edition, where he gives Zardark's process for toning old prints:

	Solution A.	
Tungstate of soda...	100 gr.	
Distilled water	10 oz.	
	Solution B.	
Precipitated chalk ..	6 gr.	
Chloride of lime	1 1/2 "	
Chloride of gold	6 "	
Distilled water	1 1/2 oz.	

Mix in a yellow bottle, shake well, and keep for twenty-four hours, then filter. Wash the prints well and tone in:

Solution A 70 to 140 minims

Solution B 70 to 140 minims
They should not tone too quickly, ten minutes at the shortest. If they tone quicker than this, reduce quantity of solution B. After toning, wash and fix in:

Solution A 5 oz.

Hyposulphite of soda 1/2 oz.
Leave the prints in this till the yellow colour goes. It may take some time but it will go eventually. Expose your old paper to the fumes of ammonia for ten minutes before printing, then use above bath for toning.

W. A. J. C.—Many thanks for your letter. With the exception of photographic societies and the press, we have no free list.

JOHN FRETWELL.—Will write you at the end of the week.

ANTHONY AND BISS.—Your post card duly noted.

J. T. HYNES.—Buy a zinc washing rack, and carefully make a parcel of it.

H. HOLZ.—Why not write to Mr. Austin yourself? We could not publish your letter, certainly not under a *pseudonym*. "Holidays with the Camera, 1891." Yes, you can enter the prints. We fear prizes are often awarded at provincial exhibitions for photographs which would stand a very poor chance in the AMATEUR PHOTOGRAPHER Monthly Competitions. About the

"Beavers' Pool," if you went and took it of course you can enter it in any competition you please.

J. BUCHANAN YOUNG.—Automatic photography photograph is capital; we will use it at an early date.

GEO. F. FIRTH.—Many thanks for the picture; shall have it blocked and inserted shortly.

JEMIMA.—Your suggestions shall be carefully considered. You can send your money on deposit to our publishers and the apparatus can be sent to us to report upon. Never buy anything from the Sale and Exchange which has the words "no approval" appended to the advertisement. Our reporting and deposit system was established to protect buyers. Your remarks about illustrations shall have our attention.

GEO. BREDDILL (South Africa).—Your letter shall have our full attention, and we will write in a day or two. We shall be pleased to buy for you a whole-plate kit.

Sale and Exchange.

RULES.

PAYMENT.—All payments are to be by cheques or Postal Orders, made payable to **Hazell, Watson, and Viney, Ltd., 1, Creed Lane, London, E.C.**

REPORTING.—Apparatus may be sent to the EDITOR, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C., who will report upon the apparatus to the buyer for a minimum fee of 2s. 6d., or a commission of 2½ per cent., upon the sale price of the apparatus.

CARRIAGE must be paid on all apparatus sent for report, and they will be returned carriage forward.

ADVERTISEMENTS can be inserted under a number, the name and address being registered, and letters forwarded for a fee of 3d. to cover postage.

ADDRESS.—All advertisements (which can be received up to Wednesday morning, 9.0 a.m.) and other communications having reference to the "Sale and Exchange" column, must be addressed "Sale and Exchange, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C."

PAYMENTS should be made in Postal Orders or Postage Stamps.

Cameras, etc.—12 by 10 camera, extends 5 to 30 in., conical bellows, double slide, and carriers; £6; or exchange light half-plate camera and lens, roll-holder, or good hand-camera. — Hartshorne, 159, High Street, Uxbridge.

Lancaster's quarter-plate Le Meritoire, complete with case, lock, and key; 25s. — Hall, 30, Charlotte Street, Plumstead.

Lancaster's half-plate Instantograph, complete; 38s.; approval.—L. Norman, Knighton, near Leicester.

Cameras, Lenses, etc.—Half-plate Instantograph lens, with shutter, 20s.; half-plate camera, lens, slide, etc., 15s.; offer.—Cazaly, Alpine Villa, Underhill Road, Dulwich.

Optimus R.R. 12 by 10, Iris, Dallmeyer's whole R.R., with stops, Voigtlander's quarter portrait, Stirn's Secret camera; want portable symmetrical, about 15 in., Optimus 9 by 7 Buryscope, or offers, cash.—W., The Studio, Hanwell, W.

Hand-Cameras, etc.—For sale, a bargain, stereoscopic hand-camera, built to special order at a cost of considerably over £30, fitted with a pair of Dallmeyer's patent stereograph lenses, capable of working at f/4, Wollaston's patent diaphragmatic shutter, with revolving stops, facilities for using lenses as single (landscape) combinations, six double backs, with vulcanite slides, etc.; price £15 cash; may be seen by appointment.—Address, E. R. Shipton, 140, Fleet Street, E.C.

Bargains. Talbot and Eamer's 1891 hand-camera, no lens, list price £1 15s., sell for 50s.; Ross' half-plate rapid symmetrical, Waterhouse stops, 60s.; whole-plate Kershaw shutter, 2½ in. instantaneous, only 10s.—Wade, 14, Aberdeen Crescent, Chatham Street, Stockport.

Rouch's quarter-plate Eureka hand-camera, light tripod, R.R. lens, spirit level, two finders, magazine for 12 plates, detachable shutter, to get any speed, focussing screen, leather case; price £5 5s.—No. 194, AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.

Lancaster's Multum-in-Parvo enlarging camera, 12 by 10, new, 24s.; Talner hand-camera, for 12 quarter-plates, polished mahogany, £2; Demon enlarging lantern, 4s. Wanted, good lanternscope.—Arthur Dalton, Wantage, Berks.

Talner hand-camera, specially made to order a month ago, only used twice; special features are: Taylor, Taylor, and Holson's R.R. lens, Iris diaphragms, also focussing arrangement, equal to new and perfect; cost £6 3s.; price £5 5s.—W. 91, Turton Street, Bolton.

No. 3 (regular) Kodak, and walking-stick stand, good as new; cost £9; price £6.—Smelt, Elm, Wisbech.

Lantern, etc.—Binocular lantern, all accessories, bellows camera and case, 20s.; whole-plate wide-angle lens, 20s., new.—G. Heyside, Oldham.

Lenses, etc.—Ross' 8 by 5 R.S. lens, lowest price 70s.; also wide-angle, 4 in. focus, 30s.; approval; deposit.—No. 197, AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.

First-class 12 by 10 wide-angle lens, with patent inside revolving stops (by Hermagis, Paris); price £2 10s.—Compton, 4, Litchfield Terrace, Redpost Lane, Upton, E.

Microscopes.—Will exchange a first-class microscope (No. 410, by Pilschler, London), in case, 17½ in. by 11½ by 8, originally cost £35, a very powerful instrument, for a full-plate camera and apparatus, all complete.—List of articles (and lowest cash value, in case exchange is not effected) to be sent to Mr. M. Clark, care of Editor, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C.

Negatives.—Fifty instantaneous quarter-plate negatives, London views, suitable for making lantern slides, 1s. each; specimen and list, post free 1s. 3d.—J. Stabb, 139, Queen's Road, Bayswater.

SETS.—Raymont's patent 12 by 10 camera, all movements, with four double dark-slides in solid leather case, two lenses in leather case, Optimus R.R. 12 by 10 and Optimus W.A. 13 by 11, six carriers, tripod, two printing frames, three dishes, and one dozen of Edwards' plates, 12 by 10, plunge shutter, the whole cost nearly £40, equal to new; price £24, or offers.—To be seen at the office of the AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C.

Thornton-Pickard half-plate Ruby camera, turntable, 3-fold stand, three backs, and case; price £5.—No. 193, AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.

Underwood's whole-plate Exhibition camera, three slides, brass-bound, rectilinear lens, Iris diaphragm, Instantolux shutter, three carriers, folding tripod, view finder, and waterproof canvas cases, condition perfect; price £10.—Lieut. Luard, H.M.S. "Immortalité," Chatham.

Square, leather bellows, long-extension half-plate camera, all movements, two double slides, Taylor's rapid rectilinear lens, finder, drop shutter, tripod, canvas bag, changing bag, Mawson plates, etc., good order, complete; a bargain, £5; deposit with Editor.—Holmes, 70, Macklin Street, Derby.

Best quality whole-plate set obtainable. Watson's Premier camera, three double slides, Watson's R.R. lens (exceptional quality), Caldwell's shutter, Ashford's tripod, equal to new, cost £22 15s., sell £15, a bargain; also Watson's half-plate Tourist camera, three double slides, Morley's special landscape lens, best ash tripod, cost £12, sell £8, or separate; approval.—Parlby, 99, Mansel Street, Swansea.

A 7½ by 5 leather bellows-body camera, one wooden double dark-slide, and three metal double dark-slides, with adapter, R.R. lens, with diaphragms, really splendid, a 12s. 6d. flap and drop shutter, tripod stand, developing dish, printing frame, etc.; cash £5; approval; deposit.—Address, J. W. Landon, 2, Percy Villas, Percy Road, Watford, Herts.

Middlemiss camera, whole-plate, three double backs, tripod, in tweed case, £6 10s.; Ross' 9 by 7 R.S. lens, Iris diaphragm, £6 10s.; Beck's R.R., 8 by 5, Iris diaphragm, £3 7s.; Thornton-Pickard time and instantaneous shutter, fit 9 by 7 Ross or any smaller, 15s.; Swinden and Earp's hand-camera, condition as new, £5 14s.; also burnisher, sundries for printing, developing, etc.; particulars sent to any address; approval; deposit.—Dr. Dearden, Wyke, Bradford, Yorks.

Camera, latest improvements, three double backs, 3-fold tripod, turntable head, R.R. lens, dishes, ruby lamp, etc.; sell cheap.—356, King's Road, Chelsea.

Shutters.—London Stereoscopic Co.'s shutter, hood 2½ in., pneumatic release, time or any speed, all metal; price 25s.—No. 196, AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.

Underwood's Instantolux, time and instantaneous, 2½ in. hood, good order; cost £1; take 12s. 6d.—3, Edmund Place, Aldersgate Street, E.C.

Sundries.—Marion's print or plate spray washing trough, extra size (2 ft. 8 in. by 1 ft. 6 in.), zinc-lined, and fitted with syphon and enameled funnel, cost £3 15s., price 30s.; also Ferrero's 10 by 8 magazine carrier (to hold two dozen celluloid films), in perfect condition, cost £4, price £2.—E. R. Shipton, 140, Fleet Street, E.C.

AMATEUR PHOTOGRAPHER, 114 numbers, commencing 1888; clear for 5s.—Lorne Villa, Abbey Street, Farnham, Surrey.

Type for camera, 50s. worth, 16 kinds, offered for good hand or half-plate camera.—Rev. P. Dean, Wall-sall.

5 by 4 camera, three metal slides, lens, dark-room, stand, burnisher, 7 vols. AMATEUR PHOTOGRAPHER, and sundries; only £3 10s.—C. H. Hatch, Alderley Edge.

"English Mechanic," from vol. i, complete, some bound, what offers? also "The Practical Dictionary of Mechanics."—356, King's Road, Chelsea.

Tricycles.—A Crimper (by Marriott and Cooper), in good condition, 42 in. wheels, geared 58 in., to be sold cheap.—Apply, R., 1, Creed Lane, London, E.C.

Tricycle, Crimper pattern, only used once, through death of owner; £6 10s.—356, King's Road, Chelsea.

WANTED.

Bicycle.—Good diamond-frame or other Safety; exchange new elaborately-fitted photographic dark-room.—32, Parkhouse Street, Camberwell.

Lenses, etc.—Half-plate Buryscope lens, in exchange for field glasses or organette.—A. Crawshaw, 10, Ridgway Street, Dewsbury.

Set.—High-class half-plate camera, with efficient and in good order, paraphernalia of all kinds for taking and completing pictures.—Send lowest price and list of all the different articles to W. H. Ramsay, Littletown House, near Durham.

The AMATEUR PHOTOGRAPHER

Telephone No. 1645
Telegraphic Address: VINEY, LONDON

Office: 1, Creed Lane, Ludgate Hill, London, E.C.

No. 362. VOL. XIV.]

FRIDAY, SEPTEMBER 11, 1891.

[PRICE TWOPENCE.]

OUR VIEWS.

"To hold as 'twere the mirror up to nature."—*Shakespeare.*

OUR VIEWS.—The opening of the Glasgow Photographic Exhibition—Prostitution of Photography, supported by an Editor of a Photographic Journal—Photographing in or near a Fort—Books to Read—The Birkenhead Society—Awards for Photographic Appliances at Falmouth—The Manchester Amateur Photographic Association and their Work—Exhibition at Hackney—Mr. William Crooke of Edinburgh—The Lantern Mission: read *Help*—Free Portrait Nuisance—The Deserving Case—Quarterly Examinations—Photographs for the County Museums.

ILLUSTRATIONS.—Judges, Members of Council, and Others at the Glasgow Photographic Exhibition—Inner Harbour, Ilfracombe.

LEADER.—An Unanswered Question.

LETTERS.—Copying (Clifford E. F. Nash)—Help the Poor Professional (Harry Alcock)—A False Actinometric Theory (Osiris)—Wanted, A Shutter (T. J. Perry).

ARTICLES.—Photographic Procedure (E. J. Wall), illustrated—Studies in Art for Photographers (Lambert)—How I Started a Successful Society (Provincial).
HOLIDAY RESORTS. North Devon and Somerset (John A. Hodges), illustrated—Wensleydale—Notes about Nottingham.

EXHIBITIONS.—Glasgow: Second Notice, and Apparatus.

SOCIETIES' MEETINGS.—Exeter—Holborn—Leeds—Lewes—Lewisham—Liverpool—North London—Richmond—Rotherham—Sheffield—Tunbridge Wells.

EDITORIAL DEPARTMENT.—All Literary Contributions, Queries and Answers, Photographs for Competition or Criticism, Books or apparatus for Notice or Review are to be addressed to the EDITOR, AMATEUR PHOTOGRAPHER, 1, CREED LANE, LUDGATE HILL, LONDON, E.C. (*All Communications should reach the Editor on Tuesday.*)

TRADE ADVERTISEMENTS are received up to Tuesday morning.

TERMS OF SUBSCRIPTION.

UNITED KINGDOM.....	Six Months, 5s. 6d.....	Twelve Months, 10s. 10d.
POSTAL UNION	6s. 6d.....	13s. 0d.
OUT OF POSTAL UNION	7s. 9d.....	15s. 3d.

PUBLISHING DEPARTMENT.—All letters containing Subscriptions, Orders, Remittances, SALE and EXCHANGE Advertisements, or other business matters for the AMATEUR PHOTOGRAPHER are to be addressed to the Publishers, HAZELL, WATSON, and VINEY, LD., 1, CREED LANE, LUDGATE HILL, LONDON, E.C. (SALE and EXCHANGE Advertisements, at the charge of *Three Words for One Penny*, can be received as late as WEDNESDAY MORNING.)

"Amateur Photographer" Monthly Lantern Slide Competition (Fifth).—"LANDSCAPE, SEASCAPE, AND RIVER SCENERY." Last day, SEPTEMBER 24TH. Two Slides to be sent in. Entry Forms, etc., on receipt of stamped envelope. Address: Editor, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C.

"Amateur Photographer" 1891 Lantern Slide Competition (Fourth Year).—Prizes: Gold, Silver, and Bronze Medals, and Certificates in each class. Competitors to enter only one class; every competitor to contribute *ten* slides, and a "lantern slide portrait" of him or her self.

CLASS I.—Landscape, Sea Pieces, and River Scenery, with or without figures.
CLASS II.—Portraiture and Figure Studies, to include in-door or out-door pictures.
CLASS III.—Architecture, Interior or Exterior.
CLASS IV.—The Fine Arts, which may include copies of Pictures, Engravings, Sculpture, Art Metal Work, China, Bric-a-Brac, etc.

NOTE.—Every Competitor must send descriptive Notes.
Past prize-winners will be awarded "Niece" or progressive medals, should they win a medal of the same value as that which they have been awarded in past Lantern Slide Competitions.

All slides must be received on or before the 30th September, 1891.
RULES, CONDITIONS, and ENTRY FORMS will be forwarded on receipt of stamped addressed envelope. The application should be endorsed, "LANTERN SLIDE COMPETITION," Editor, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C.

"Amateur Photographer" Monthly Competition No. 29.—Prizes: Silver and Bronze Medals, with Ribbon and Clasp—"HARVESTING." Last day, OCTOBER 1ST. One print only to be sent in. Entry forms, etc., on receipt of stamped envelope. Address: Editor, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C.

Members of the Editing Staff are "At Home" on Monday afternoons from Two till Five o'clock, and they will gladly give advice upon all photographic matters.

THE AMATEUR PHOTOGRAPHER Monthly Competition No. 28, "Enlargements," was a rather disappointing one, the entries being very few.

First Prize (Silver Medal).

THOS. DRAPES, M.B. Ireland.

A fine enlargement of a cloud picture—Curracloe Sandhills, "Look out for Squalls," the view being across a calm bay with heavy storm clouds coming up.

Second Prize (Bronze Medal).

G. E. VARDEN London.

The picture is of an old wooden three-decker, and is entitled, "After Many Storms." It would have stood further enlargement without injury.

Amongst the other pictures were "At Work," by R. Welsh Branthwaite; "South Devon Hounds," by Louis W. Tindal; and "Milton's Cottage," by W. R. Weir.

THE opening of the Glasgow Photographic Exhibition last week was a most brilliant success. The Lord Provost's address was listened to with much satisfaction. He spoke of the achievements of photography, and the work that Scotland, and more particularly Glasgow, had done in connection with the advancement of the science. Bringing the subject nearer home, his lordship said:—

"In the beginning of August, along with some members of my family and other friends, I had a very pleasant trip in Norway. The weather was extremely favourable, and we saw the magnificent scenery of that country to great advantage. In our party there were several amateur photographers, who took views of all that appeared to them specially striking or interesting, and among the number was our esteemed friend Sir James Marwick, who recently presented Mrs. Muir with a number of beautiful photographs taken during this trip, which will always serve to bring vividly to our recollection the happy days spent in Norway. In our Town Council we have another very successful amateur photographer, Mr. John Ure Primrose, who has taken some extremely good views in connection with our Town Council excursions."

Following the Lord Provost, Mr. Valentine Blanchard, on behalf of himself and fellow judges, spoke in the highest praise of the work entered for competition. The next speaker, Mr. Charles W. Hastings, said:—

"It had been his lot during the past four or five years to be present at almost every exhibition held in the United Kingdom, and he congratulated the Association most heartily upon the pictures gathered together on that occasion, and also upon the most admir-

able works of art exhibited by Scotch people. He would be glad to see many of the pictures shown in the South, and if they were he was quite sure they would reap the honours they deserved. The Association was particularly fortunate in the rooms where the pictures were shown. In London they had no set of rooms which they could ask either the Government or municipal authorities for, that were so admirably adapted for such an exhibition as the rooms in which they were now assembled."

Mr. W. D. Welford fully endorsed these sentiments, and after Mr. Wm. Lang, jun., on behalf of the photographers of Scotland, had thanked the Lord Provost, the Exhibition was declared open.

Through the courtesy of the Council we are able to present our readers with a reproduction of the group taken in the galleries by Mr. W. M. Warneuke, after the awards had been made. In addition to the judges the group includes many of the most prominent workers in photography in the west of Scotland. Mr. Warneuke deserves most hearty congratulation upon the clever grouping. We may add that our illustration does not do his work justice, for as a matter of fact he has secured a first-class portrait of everyone in the group.

It is not often we fall foul of our contemporaries, but we regret to find such teaching as the following commended in the columns of a journal circulating almost exclusively amongst professional photographers. In an article describing how a certain "leader," a lady, works, the editor writes:—

"As to — method of work, its principal speciality may be summed up into three words—retouching the sitter. Her principal work is amongst the incurables, the people who 'never make a good photograph,' the sensitive, nervous folk, with whom a woman's natural tact is a great power. In many cases there is no difficulty about the sitters except what arises from their nervousness and extreme self-consciousness, but in other cases personal defects or even the limitations of photography render it difficult to secure a likeness which is pleasing to the sitter, although, perhaps, in most cases they could not say wherein lay the fault to which they objected. It is in these cases that a certain natural power, which cannot be gained by education, stands — in good stead. Her feminine habit of noticing and criticising costume leads her to detect and remedy many little defects in the dress of a sitter which a man would not notice, or would not dare to correct; but which have a very decided effect upon the result. It is wonderful, when one comes to think of it, how great an improvement can be made in the fit of many a coat or bodice by the skilful introduction of one or two crumpled-up pocket handkerchiefs to tighten the places that show a tendency to crease. A handkerchief or a pair of gloves slipped under the coat will greatly improve a sloping shoulder and make its sharp outline, as seen against the background, more like the apparent outline as it strikes one in real life. With charming effrontery — makes these little alterations and improvements, and she does not stop at the costume but turns her attention to the countenance itself if she thinks that thereby the portrait can be improved. In a little box near the camera she keeps an assortment of colours and useful oddsands, including, of course, a pair of spectacles without glasses. The colours include white powder for lightening the hair, or for cheeks of a sallow or brunette complexion, rouge for the lips, and black for lining out the eye-brows or for touching under the eyes. It must not be imagined that the make-up box is only used for making-up in the ordinary or theatrical sense. The colours, especially the black, are useful in softening the edges of harsh lights—in fact, they are used on the face exactly as the pencil would be used in retouching, and this retouching on the sitter has one great advantage, in that with it there is no risk of destroying the likeness."

And this is the result of all the art training of the nineteenth century; to falsify nature and to make up the human form divine after the manner of dolls in a puppet show or mummies on the stage. We omit the name of the "leader" for obvious reasons, and regret that in a paper having so extensive a circulation support should be given to one who admits that in her photographic practice she has recourse to the make-up box and the tricks of the stage. All interested in photography have been straining every nerve to make the art more truthful, and yet an editor is to be found who can publish and uphold such illegitimate

and audacious methods of tampering with the figure and features of the human form. We hope that professional photographers will rise *en masse* and condemn his presumption in dubbing this woman, with her false and artificial methods, a "leader" amongst photographers.

THE following is from the *Glasgow Herald*:—

"On Saturday last an ardent amateur set forth with his camera, intending to take an instantaneous picture of the yacht race off Fort Matilda, Greenock. Finding that big gun practice was going on at the fort, he thought he would try and catch one of the guns going off. Accordingly he rigged up his camera and proceeded to focus. Upon this a non-commissioned officer called to him to go out of that. As he was about a couple of feet inside the gate he at once moved outside, and was again about to proceed to focus when the officer came out and demanded his name and address. The amateur declined to give them, and asked why he wished them. The officer threatened to call out an escort and have him arrested if he did not give him the desired information. The amateur declined to comply unless he was first told what use was to be made of it. He was then told for the first time that it was against the law to photograph any fort or war building, and as he had been attempting to do so his name and address must be given. Upon hearing this the desired information was at once given, and no further attempt made to photograph. The man of the camera has now received a letter from the officer in charge, stating that the matter has been reported to him, and informing him that photographers are not allowed to take photographs of forts and other War Department establishments, and any person found doing so after being cautioned is liable to be handed over to the police."

A CORRESPONDENT writing from Italy expresses an opinion that every amateur worker should buy the following books and study them carefully:—

* "Burton's Modern Photography," 1s.

"Wall's Dictionary of Photography," 2s. 6d.

"The Amateur Photographers' Annual," 1s.

He further adds:—"I seldom see a question in your columns which one or other of these books would not answer, and if the possessor of them also takes in the AMATEUR PHOTOGRAPHER (as he will if he is sensible), he may consider himself fully equipped for his work."

At the meeting of the Birkenhead Photographic Association held on Thursday last, Mr. J. A. Forrest commenced his series of papers on "Photography." He will cover in the series the work done from 1838 to 1891, and illustrate his subject by specimens showing the progress at different periods.

WE have just received an intimation that the following awards have been made in connection with the photographic department of the Royal Cornwall Polytechnic Exhibition for apparatus, etc.:—Messrs. Taylor, Taylor, and Hobson, 1st silver medal; and Mr. R. R. Beard, 1st bronze medal.

At last Tuesday's meeting of the members of the Manchester Amateur Photographic Association, the following papers were included in the business of the evening:—"Platinotype," Dr. A. Hamilton; "Alpha Paper," J. T. Lees; "Chloride Paper," J. Drinkwater. This surely made a splendid evening. The Manchester are early getting into collar for winter work.

THE exhibition of the Hackney Photographic Society will, in addition to the eight classes, have a section for trade exhibits, optical lantern displays, and exhibition of photographic apparatus. We note that Sir Charles Russell, Q.C., M.P., has consented to open the exhibition.

WHEN in Edinburgh last week with the veteran photographer Mr. Valentine Blanchard, we had a delightful ten

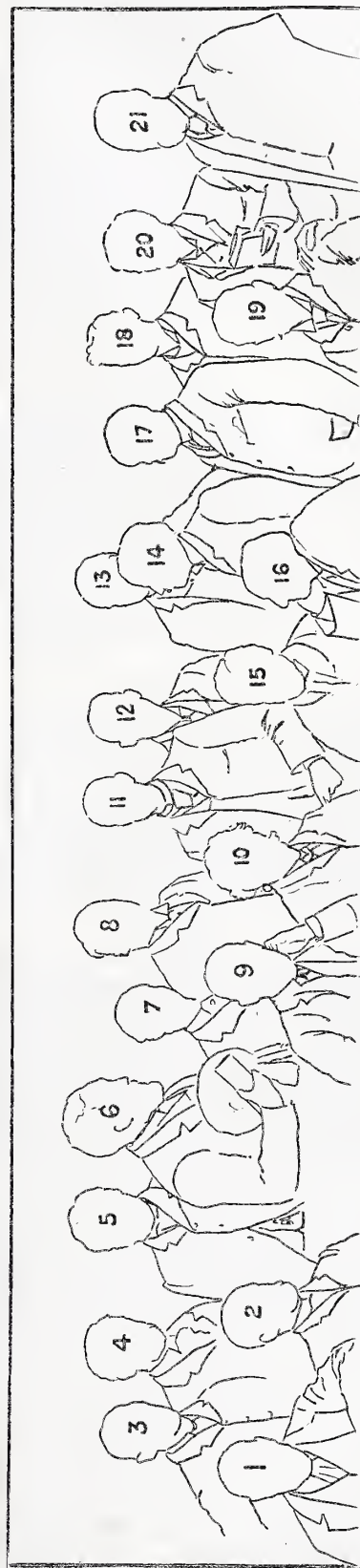
* Messrs. Hazell, Watson, and Viney, Ltd., 1, Creed Lane, E.C., will send these books on receipt of remittance.

GLASGOW PHOTOGRAPHIC EXHIBITION,--1891.



The Judges, Members of Council, and Others.

(Photographed in the Exhibition Galleries by W. M. Warneke, 127, Sauchiehall Street, Glasgow.)



1. Charles W. Hastings (AMATEUR PHOTOGRAPHER).
2. Thomas Taylor (Vice-Pres., Exhibition Committee).
3. Andrew Brown.
4. George Mason.
5. William Lang, jun., F.C.S. (Pres., Glasgow Phot. Assoc.)
6. John Stuart.
7. J. C. Oliver.
8. David R. Clark, M.A.
9. William Young, R.S.W.
10. Valentine Blanchard (London).
11. William Goodwin (Hon. Sec.)
12. James Craig Annan.
13. W. Wilson (Curator)
14. John Morrison, jun. (President).
15. Richard Keene (Dorby).
16. Adam Diston (Leven).
17. Ralph H. Elder.
18. W. S. Hobson.
19. William Miller.
20. W. D. Welford (*Photography*).
21. Archibald Wakon.

minutes with Mr. William Crooke, whose photographs have received so many honours in the south, and whose portraits of the Scotch judges are unique as a collection of pictures perfect in execution. In Mr. Crooke's reception room and studios everything is real. There is not a photographic "property" upon the premises. All his work speaks truth and fidelity to nature, and for himself it is apparent at once that his whole heart is bent upon producing a portrait which in pose and lighting shall equal the work of the most gifted artist. Ours was but a flying visit, still the opportunity was not to be lost. Mr. Crooke talked to us, looked at us, and then, "Come in the studio; there, that'll do; just one plate; together as you are," and so in an instant the sensitive film received the exact image of Mr. Crooke's visitors, a print from which in years to come will remind him and us of the few bright minutes we spent together in the autumn of 1891.

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THE September number of *Help*, which is a kind of overflow of the *Review of Reviews*, is exclusively devoted to Mr. Stead's "Lantern Mission." The National Society is getting to work, and already they are able to publish a list of lectures and lanternists. Some very capital hints are given for beginners, and a very considerable portion of the article by Mr. C. H. Bothamley, F.I.C., F.C.S., on "How to Manipulate the Lantern," which appeared in the last issue of the *Photographic Quarterly*, is reproduced. All interested in the use of the optical lantern as an educator for the masses should buy and read *Help*, price one penny (monthly).

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THE free portrait nuisance is again rampant. We are inundated with letters advising us of the receipt of glowing circulars, and our advice to all is to burn them and to have nothing to do with these people, "charm they never so wisely." The right-thinking man will know at once that he cannot receive something for nothing *ergo* if these people will make a "matchless pastel portrait" of you for nothing; the frame must be sold at such a price as to pay for paste and frame.

—•••••

MR. HARRY ALCOCK writes us a very sensible letter anent the "Deserving Case." It will be seen that in our note upon the matter last week we gauged his intention and proposal exactly. He has no wish to start a pauperising society, but rather to form an agency for the giving away, after due inquiry, of such apparatus as the well-to-do have no use for, and which they do not care to sell. The plan seems to us to be an admirable one, and we can only endorse what we said last week, *i.e.*, that it will give us much pleasure to help the movement in the manner then described.

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WE again call the attention of our readers to the Quarterly Examinations, the first set of questions for which appear on another page. A full syllabus may be obtained on application, and competitors will thus be able to work up their answers. We should strongly recommend even novices to enter for these examinations, as the task of searching out the answers is calculated to fix the facts more firmly in the memory than mere reading. The examiners will criticise the answers received, and give chapter and verse of authorities where complete answers may be found, and thus competitors will be able to note their errors or omissions. It will be seen that the answers must be received on Monday, September 28th, thus enabling the first set to be published in our issue of October 5th. We do not expect every competitor to answer all the questions, but each should be attempted, as, no matter how poor the answers, marks will be awarded. Practical work forms no

small portion of the questions assigned, and in order to induce the competitors to undertake this, double marks will be awarded for this work.

—•••••

WE are glad to see that the suggestion as to the advisability of founding "County Museums," which was brought forward by Sir Harry Verney in the columns of the *Times*, has drawn forth some admirable letters from Professor W. H. Flower, Mr. Laurence Gomme, Mr. Jonathan Hutchinson, and others. In a letter from Mr. Hutchinson, the eminent surgeon, there is an allusion to photography. "What, then, should be the scope of an educational museum, asks Mr. Hutchinson, such as we ought to find provided for popular use in every town of more than a few thousand inhabitants? Let me answer that it ought, in my opinion, to comprise objects in reference to all branches of knowledge which permit of objective illustration. Nor should this latter term be restricted to material which can be placed in cases or put in glass bottles. The arts of the photographer, the draughtsman, and the modeller may be suitably and very profitably called into requisition to complete the display, and globes, maps, plans, portraits, and pictures may in turn, and as occasion affords, all be utilised." We should like to hear from any correspondents who can inform us of museums in which photographs of local scenery or of famous buildings and relics are on view. Why should not towns possess portraits of their Members of Parliament, Mayors, Town Clerks, High Sheriffs, and other important functionaries? Lord Beaconsfield was right when he said that "it is the personal which interests us," and if this suggestion were generally carried out we believe that the local portrait gallery would rival in its attractiveness the stuffed birds and geological curiosities which so often meet our eye in museums.

—•••••

AN UNANSWERED QUESTION.

WE have this week had a question asked us which we are unable to answer, and which, so far as we are aware, has never yet been answered. The question induces us to propound another, which is equally as difficult to answer satisfactorily. The two questions then are: (1) Why is it that the sun or the heat of a fire makes a negative denser than it would otherwise be? (2) Why does rain-water spilt on a negative produce an indelible mark?

WE were aware that these two questions were founded on noticed facts, but we have amused ourselves by actually trying the experiments as follows. Having some poor, valueless negatives, they were well washed for twelve hours in running water, then treated with twelve successive soakings for ten minutes, face downwards, in distilled water, so as to eliminate as far as possible every possible chance of any hyposulphites being present; and then one of the negatives was cut in half—one-half dried in a drying-box by air, the other half by exposure to the sun. Another negative was cut in half, and one-half dried partially by a current of air, and then allowed to dry in a room, the other half was completely dried by carefully heating over a Bunsen gas burner. On placing the respective halves together, and printing from them, it was at once proved that the sun and heat dried halves were denser than those dried by air; whilst the one half dried partially in a current of air and then allowed to finish drying in a room showed well-defined lines which limited the edges dried in the current of air.

WE have before now met with instances where negatives placed close together in a rack to dry have most distinctly faded out or dried out very much lighter and thinner in deposit in the middle than at the edges, and this was

distinctly traceable to the fact that the centres were longer in drying than the edges. This fault we have noticed before now with commercial plates prior to developing, a distinct central portion being of quite different surface to the edges, and behaving quite differently to the developer. We believe that no satisfactory explanation of these phenomena has been given, nor are we prepared with one, though we intend to carry our experiments further and more critically examine the image deposits.

In the case of rain spotting, a well washed and thoroughly dried negative was held for a few seconds out in a slight shower of rain till fairly well spotted. It was then allowed to dry, and the rain spots were distinctly visible, not from the deposit of dirt left on evaporation of the water, but from the actual image being, or at any rate looking, thinner and less dense. Treatment of the plate with acid or alum seemed to have no practical result in removing this appearance. It can hardly be suggested that any acids carried down by the rain could have any weakening effect.

These are points which have received no satisfactory explanation, and seem to lie beyond the power of experimenters to conclusively elucidate. It has been suggested that the differences noted are but pure physical changes induced by light. There are many such physical changes known, but with these we need not at present concern ourselves. Our idea in thus mentioning this subject is to draw the attention of our readers to the necessity of being careful in drying negatives, that the same are dried evenly and by the same agent all through. We can either dry them by gentle heat, or by the use of spirit, or by a current of air, but in each case the same agent must be used till the negative is thoroughly dry.

In all cases where a rack is used, a good current of air must be allowed to circulate between the plates, or else the central portions will be much thinner than the margins, and distinct and ineradicable lines will also be caused by allowing the sun to have access to a partially dry negative, or by drying the negative partially by air and partially by heat. The use of spirit sometimes leaves a white deposit in the negative when the latter is not perfectly washed, which, however, is immediately removed by washing again. If the spirit is impure, or the so-called finish, a deposit of resin will be left on the film.

By far the most satisfactory and the quickest method of drying the negatives, is to place them in a rack and put the same on a window, with the window just open wide enough to take the rack. A good current of air thus finds its way in between the negatives, and they become dry in a marvelously short time.

Letters to the Editor.

HELP THE POOR PROFESSIONAL.

SIR,—I have to thank you for your prompt insertion of my appeal on behalf of the young professional at Deal, and I have since received a letter from him expressing his gratitude. With regard to the question of establishing a general fund, I see by your remarks on the subject that you clearly understand what I intended to convey, and that you fully approve of it. Mr. Snowden Ward does not appear to see that my proposal would not encroach upon the ground covered by the Photographers' Benevolent Association, but I had no idea of giving monetary assistance; any subscriptions received in cash would be expended to the best advantage on apparatus, to be given to such needy professionals as might be decided upon by the proposed committee. If funds permitted, grants of plates, chemicals, etc., might also be made.

I am glad to see that others of your readers are interested. Personally, I shall be pleased to give my services in any way you may suggest to make the scheme a success, and those gentlemen

who may desire to take an active part in the formation of the proposed committee will doubtless notify you. Your kind offer to place a column at the committee's disposal will give the necessary publicity, and in most cases it would merely be requisite to bring the donor and recipient into communication through your columns, a description of the apparatus for disposal being published by you weekly, applications for which would be considered and decided upon by the committee. I presume you would be willing to undertake the receipt of cash subscriptions, acknowledging the same in your paper, and the committee could apply to you when money was required for the purposes of the fund.

I note that a reader generously offers to contribute a guinea per annum, on the understanding that too strict an interpretation is not to be placed upon the word "deserving;" but while I laud his sentiments, I feel that the almoners of such a fund would be bound to see that it is properly distributed, and given where it appears likely to be of permanent benefit.—Faithfully yours,

HARRY ALCOCK.

Meadowside, Cricklewood, N.W., Sept. 7th, 1891.

* * * *

COPYING.

SIR,—As the query No. 5,002 cannot be so conveniently answered in the correspondence column, perhaps you will insert this letter. The size of copy depends on the available extra focal length admitted by the camera as compared with the focal length of the lens.

Thus: Let— x = extra available length in inches.

f = focal length of lens in inches.

D = distance of object from lens in inches, when the camera is fully racked out.

Then $x = \frac{f^2}{D-f}$, whence $D = \frac{f(f+x)}{x}$.

Therefore in the formula $\frac{1}{u} + \frac{1}{v} = \frac{1}{f}$ we have $u = f + x$,

$v = D$; and $\frac{\text{linear dimension of image}}{\text{linear dimension of object}} = \frac{u}{v} = \frac{f+x}{D} = \frac{x}{f}$;

$\therefore \text{size of image} = \frac{x}{f} \times \text{size of object}.$

Therefore the larger f is as compared with x , the smaller is the size of the copy. It would appear that your correspondent's 5×4 camera has comparatively more extra focal length than the whole plate.

CLIFFORD E. F. NASH.

* * * *

A FALSE ACTINOMETRIC THEORY.

SIR,—Mr. Alfred Watkins in your last issue finds fault with the very generally accepted opinion that "the only way in which an actinometer could be practically correct would be to gauge the actinic of the image thrown on the screen." I should like to hear what he has to say about the value of an actinometer which will gauge the actinic of the image, omitting the screen; that is to say, it seems to me to be the correct method of estimating exposure to gauge the actinic of the image transmitted by the lens, and not, as stated by Mr. Watkins, "to test the light which falls upon the subject, and not that which is reflected from it." Surely in this Mr. Watkins is totally neglecting the influence of subject colour, as it is possible to gauge the actinic of the light which falls on the subject, and yet this subject may reflect much less actinic light than it receives.

I should be glad to hear what Mr. Watkins has to say on this point, not in any cavilling spirit, but merely for my own enlightenment.—Yours truly,

OSIRIS.

* * * *

WANTED, A SHUTTER.

SIR,—I cannot at all agree with Mr. Morson on the above subject. Is it at all reasonable for Englishmen to encourage American manufactures, seeing that the American market is practically closed to English manufacturers? If Mr. Daniel would withdraw those points which are really not essential to a good shutter, he would easily find in England a shutter to serve his purpose at a quarter the price (or perhaps less) than if he took Mr. Morson's advice.—Yours faithfully,

T. J. PERRY.

August 31st, 1891.

Photographic Procedure.

By E. J. WALL,

Author of the "Dictionary of Photography."

SECTION I.

THE CAMERA AND ITS APPURTENANCES.

(Continued from page 160.)

Shutters, Instantaneous.—For the purposes of this article, I divide shutters into two main classes: (I.) Exposing shutters; (II.) Rapid shutters.

(I.) **EXPOSING SHUTTERS.**—These are more or less simple arrangements devised to replace the cap, and are usually fitted to the lens hood and actuated by a pneumatic ball and tube, which releases that portion of the shutter covering the lens, and again covers the objective when the necessary exposure has been given. To this class belong—

The Leicester Exposing Flap and Shade (Taylor, Taylor, and Hobson).—An ordinary flap fitted to a coiled spring, a twist of the same raising the flap from the front of the objective.

Mayfield's Exposing Shutter.

Cadett's Drop.

Cadett's Pneumatic.

Lancaster's Pneumatic.

Tylar's Self Portrait.

In all these, pressure on a ball, or the tension on a string or cord, raises a flap from in front of the lens, which remains raised till such pressure or tension is removed when the necessary exposure has been given.

Newman's Studio Shutter consists of two flaps opening at the centre which have the same action as those described above, but it is specially intended for studio work.

Marion's Dolce.—A specially devised studio shutter with a small bird, which on pressure of a ball cries "Cuckoo," thus attracting the attention of juveniles, and the lens can be opened by a second tube when desired.

Many of the shutters classed in Section II. are arranged to give time exposures also, but the above are pure and simple exposing shutters.

(II.) **RAPID SHUTTERS.**—This class may be again conveniently divided into (a) shutters working in front of the lens, (b) those working behind the lens, (c) those working in the diaphragm slot, (d) those working in front of the sensitive plate.

(a) *Shutters Working in Front of the Lens.*—I have to confess that the treatment of this subject is like an eternal division sum, but my idea is to provide a practical guide to the choice of a shutter. We may again divide into classes—

(Class II., a 1) *The Simple Drop.*—This consists of a sliding piece of wood or ebonite, with an aperture which, passing in front of the lens, makes the exposure.

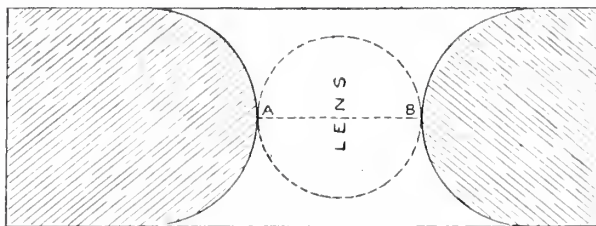


FIG. 46.

The longer the aperture in the dropping piece the more even the illumination of the plate. From theoretical considerations the aperture should take the form shown in the accompanying diagram (fig. 46), the distance along

the dotted line A B being made equal to, or twice or thrice the diameter of the lens; the narrower this aperture the quicker the exposure, but the less light

admitted during exposure. The longer the slide drops before uncovering the lens the more even the illumination of the plate and the shorter the exposure. In this, as in all shutters fitting on the hood of the lens, the aperture of the shutter should never be smaller than the lens aperture, or it acts as a stop. Some of the drop-shutters are so arranged that the aperture may be elongated or shortened by an additional sliding piece, as shown in fig. 47.

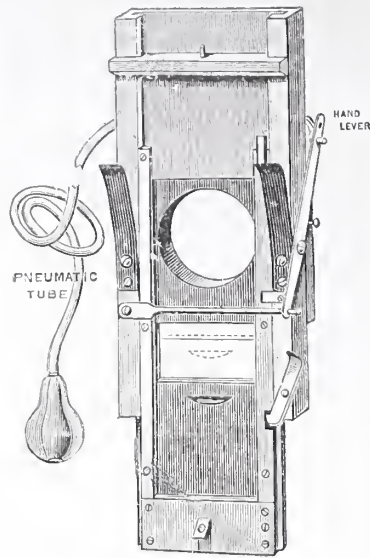


FIG. 47.

(Cl. II., a 2) *The Flap and Drop.*—This is a combination of the flap with a drop, and the flap is raised, and then at a given point the drop falls. This class of shutter gives more exposure to the foreground than the sky, and a typical shutter is shown in fig. 48.

A modification of this form has been introduced in which the flap rises, and then turns on a bar and falls like a drop.

(Cl. II., a 3) *The Double Drop.*—In this form a sliding piece is raised by pulling a string, and then when the lens is completely uncovered another sliding piece falls, closing the aperture; thus more exposure is given to the foreground than sky. A well-known form is Forrest's Due Ratio.

(Cl. II., a 4) *The*

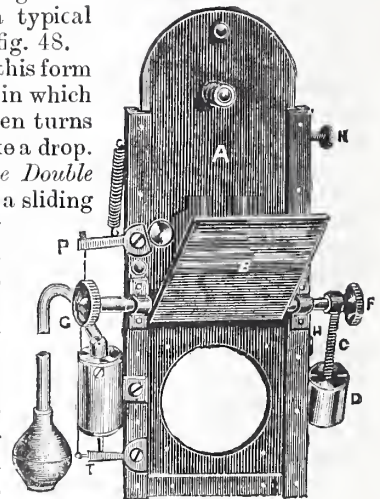


FIG. 48.

Rotating Screen.—In this style of shutter (fig. 49), a rotating screen uncovers and covers the lens aperture. In several shutters of this class a special shape is given to the rotating screen to give more exposure to the foreground.

(Cl. II., a 5) *The Flap and Double Flap.*—The principle of this class consists of a flap which is raised and lowered, or one which is raised, opening the lens, and another

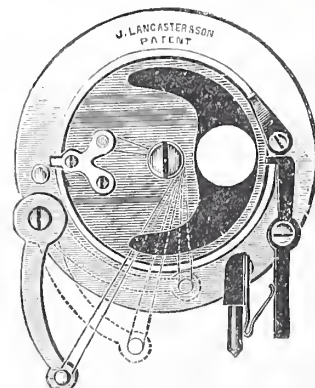


FIG. 49.

closing the lens, as shown in figs. 50 to 54 (lent by Hethton Lewis, of Brighton).

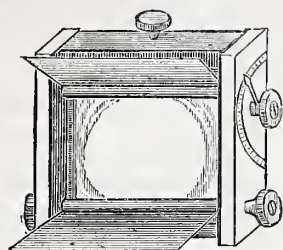


FIG. 50.



FIG. 51.



FIG. 52.



FIG. 53.



FIG. 54.

(Cl. II., a 6) *The Go and Return*.—A favourite form of shutter, a type of which is shown in fig. 55, in which the action of the moving parts is also seen. The disadvantage of this class of shutter is that if the moving part is heavy and not counterbalanced, the reversal of the motion at the critical moment of exposure, that is, when the lens is fully open, is apt to cause vibration and blurring of the outline. Many shutters of this class are constructed to fit in front of, behind, or between the lenses.

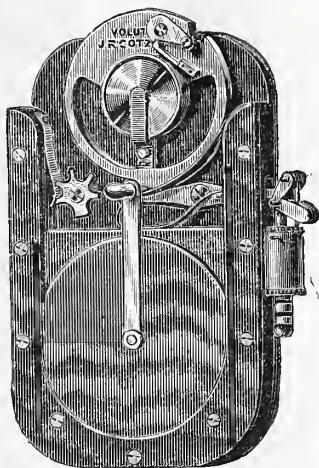


FIG. 55.

(Cl. II., a 7) *The Blind Pattern*.—This is again a very favourite form, and one which, acting on the principle of the simple drop-shutter, gives a fair range of speed. A typical

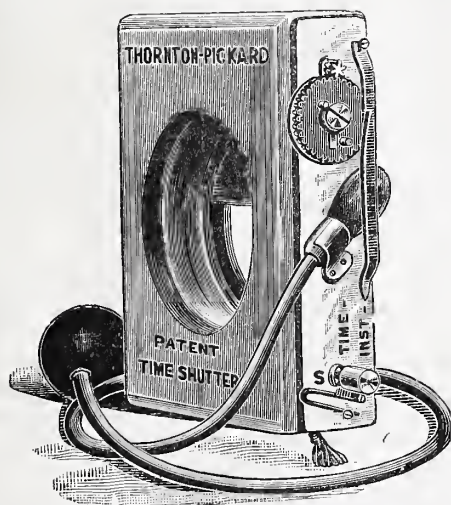


FIG. 56.

shutter is seen in fig. 56, and it consists of a blind of opaque cloth fastened at each end to rollers, the lower

one being provided with a coiled spring, the upper with a small milled head for winding up the material, which on the release of a catch passes in front of the lens, exposing the plate and again covering the lens.

(Cl. II., a 8) *Shutters Opening from Centre*.—The form of opening takes various shapes, from the long straight narrow strip—the eyelid and the diamond.

The first form of opening is given by two roller blinds opening from the centre and closing again to the centre.

In the second form, shown in fig. 57, the aperture takes first the shape of an eyelid and opening from and closing to the centre.

The third form is seen in fig. 58, where the same method of opening and closing is seen.

(Cl. II., a 9) *The Ever-Set Shutter*.—This shutter is of French origin, but is now made by many English firms, and is shown in fig. 59.

(Cl. II., b) *Shutters Working Behind the Lens*.—There are few shutters on the market specially constructed

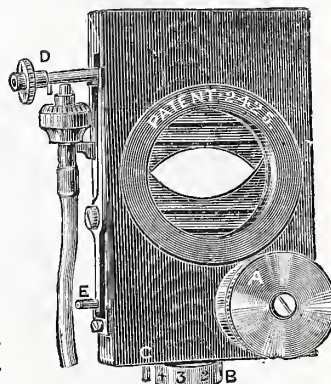


FIG. 57.

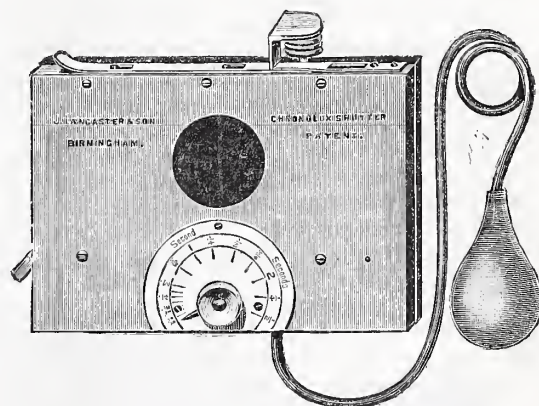


FIG. 58.

to work in this position, though many of those working in front of the lens can be thus used, especially the blind pattern.

(Cl. II., c) *Shutters Working Between the Lenses*.

—This variety is again divided into—(1) The go and return; (2) the blind or drop; (3) opening from and closing to centre with eyelid aperture; (4) opening from and closing to centre with diamond aperture; (5) opening from and closing to centre with longitudinal strip

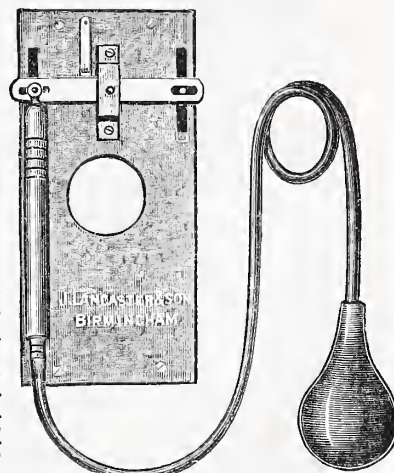


FIG. 59.

opening; (6) Iris diaphragm action; (7) rotating screen.

(Cl. II., c 1) *The Go and Return*.—This form, shown in fig. 60, has for some time held the front rank in between lens shutters, but is open to the theoretical objection that the reversal of the motion at the critical moment of exposure, when the lens is fully open, is liable to cause vibration.

(Cl. II., c 2) *The Blind or Drop*.—In the case of the drop it is obvious that the lens mount has to be cut to allow the dropping-piece to pass through. This has, probably for this reason, found but little favour. The blind form is practically the same as that made for the front of the lens but with a narrow slit.

(Cl. II., c 3) *Opening from and Closing to the Centre with Eyelid Aperture*.—This form of aperture is a favourite one.

(Cl. II., c 4) *Opening from and Closing to the Centre with Diamond Aperture*.

(Cl. II., c 5) *Opening from and Closing to the Centre with Longitudinal Strip Opening*.—So far as I am aware there is only one commercial shutter which gives this form of opening, and it consists of double blinds which work in opposite directions.

(Cl. II., c 6) *Opening from and Closing to the Centre with Iris Diaphragm Action*.—Several new shutters have lately been introduced of this.

(Cl. II., c 7) *Rotating Screen*.—In this form a screen pierced with a circular aperture rotates across between the lenses.

(Cl. II., d) *Shutters Working in front of the Sensitive Surface*.—In this form of shutter, which is by no means new, a roller blind with a narrow slit in it, passes immediately in front of the sensitive surface, thus exposing the same in successive portions, and allowing the lens to act with full aperture for the whole period of exposure—no matter how short that exposure be. This shutter also possesses the advantage of allowing any focus lens, or a lens of any diameter, being used without any difficulty. See *AMATEUR PHOTOGRAPHER*, July 24th, 1891, p. 65. A typical shutter is shown in fig. 61.

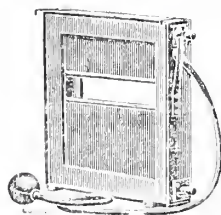


FIG. 61.

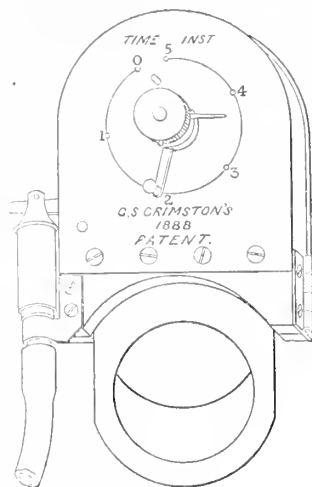


FIG. 60.

Studies in Art for Photographers.

By REV. F. C. LAMBERT, M.A.

CHAPTER XIII.

INTER-RELATION OF THE VARIOUS LAWS OF COMPOSITION
It will now be expedient to take a rapid and general survey of the ground over which we have thus far gone. The thoughtful reader will very probably have already observed two general impressions, viz., (1) that the headings under which we have found it convenient to group our suggestions have very flexible limits, if any limits can be assigned, and that they to some extent overlap and run into each other; (2) that these general principles run more or less in pairs of semi-opposites. This latter idea is further suggestive as indicating the desirability of not pressing any of these working rules beyond reasonable limits. Some attempt may now be made to tabulate our "laws," somewhat thus:—

- | | |
|--------------------|--------------------|
| *(a) Principality. | (a) Subordination. |
| (b) Contrast. | (c) Interchange. |
| (d) Balance. | Symmetry. |
| (e) Curvature. | (e) Continuity. |
| (f) Radiation. | (f) Repetition. |
| (g) Consistency. | (g) Harmony. |
| (h) Breadth. | (h) Unity. |
| | (h) Simplicity. |

In the foregoing table something like a rough grouping into pairs may be observed. For instance, the law of *principality* may very easily be expanded so as to include that of *subordination*, as a logical consequence.

Interchange is almost a necessity as a relief from the extremely simple form of a single *contrast*. It may also be observed that excessive interchange may pass into spottiness and so utterly opposed to *breadth*.

Symmetry is an extreme limit of *balance*. The former is monotonous as being the opposition of equal and similar elements, and thus opposed to *subordination*, while balance of variable parts, including the adjustment of proportion, is highly conducive to unity.

Curvature, again, very easily passes into *continuity*, as may be very easily and generally observed in nature. Both may be observed at once in many contour lines of natural objects. Again, *radiation* almost always necessitates *repetition*, and both of these again are found in more than abundance in nature. Again, *harmony* is almost impossible without *consistency*. Finally, *unity* is one chief end of a work of art: with this aim in view is *selection* made, and various parts brought together in *composition*. Throughout all *composition breadth* must prevail, along with *simplicity*, *fitness*, *consistency*, and *harmony*, otherwise true union—i.e., unity—is impossible. Thus it is in no wise overstating the matter to say that in observing all the foregoing principles, we are after all only striving to combine several things into one complete whole.

It has become almost a general tacit assumption that composition is the beginning and end of an artist's work. But we have it from men of all shades of thought and degrees of proficiency, that the first and essential part of his work is selection. To know what to omit is no easy matter. To no person more than the average photographer is there need of caution in this direction. The camera man is continually tempted to include everything. In fact, with many

"Amateur Photographer" 1891 Stereoscopic Slide Competition (Fifth Year).—Prizes: Gold, Silver, and Bronze Medals, and Certificates in each class. Competitors can only enter one class, and every competitor must contribute six slides.

CLASS I.—Landscape, Sea Pieces, and River Scenery, with or without figures.

CLASS II.—Architecture, Interior or Exterior.

CLASS III.—The Fine Arts, which may include Sculpture, Art Metal Work, China, Bric à Brac.

NOTE.—Past prize-winners will be awarded "Niecep," or progressive medals, should they win a medal of the same value as that which they have been awarded in past Stereoscopic Slide Competitions.

DATE.—All slides must be received on or before October 30th, 1891.

RULES, CONDITIONS, and ENTRY FORMS will be forwarded on receipt of stamped addressed envelope. The application should be endorsed, "STEREOSCOPIC SLIDE COMPETITION," Editor, AMATEUR PHOTOGRAPHER 1, Creed Lane, London, E.C.

* NOTE.—For the convenience of readers the following reference to past numbers of the AMATEUR PHOTOGRAPHER are here subjoined:—

- | | |
|----------------------------|--------------------------|
| (a) Ch. V., March 20th. | (e) Ch. VI., April 17th. |
| (b) Ch. VII., May 15th. | (f) Ch. X. July 10. |
| (c) Ch. VIII., May 29th. | (g) Ch. IX., June 19th. |
| (d) Ch. II., February 6th. | (h) Ch. IV., March 6th. |

workers (one can hardly call them artists) there is a grievous confusion between *quantity* and *quality*, so much so that only too often is the latter measured by the former. Hence the too frequent complaints of the wide angle having been used "not wisely, but too (wide angly and) well (?)"

One may rehash an old dish and say, first select before you compose. If the elements selected are properly chosen then they will almost by themselves drop into their right (because their only) place.

There is running throughout all selection a great and sound guiding principle, so obvious that it escapes the observation of many. Therefore some leniency should be accorded one in mentioning a matter so self-evident. The principle is this, that whatever is chosen or selected is taken *because its presence is desirable*. In other words, every part should not only be present but should be necessary to, and a part of, the whole. Firstly, it should be necessary of itself, otherwise it is superabundant, and taking the place of its betters; again it should be necessary by reason of its presence adding something to the grand total, otherwise it is a drone, doing no work, and drawing off attention. Finally it should be so necessary that its omission would be perceived as indicating a measure of incompleteness.

Secondly it should be a part of the whole, so that when composed, *i.e.*, put alongside other elements, its own individuality becomes merged in the general community.

Thus underlying the whole matter may be perceived the general principle that every part should be a part of and a help to every other part. And even more, for every part should contribute to the whole something which no other part yields—that is to say, that any or every part may be considered as the complement of all the rest put together, and just supplying neither more nor less than what is needed to make up one complete whole of many parts. As in the body, where each organ or member has its own proper function and part to play, so contributing to the whole some work or function not wholly or even chiefly for itself, but that the whole collections of parts and organs form one harmoniously working and perfectly proportioned and coordinated whole; each being a help to, and necessary to, and yet in turn dependent upon each and every other part.

Now it may very naturally be asked, why lay such great stress upon striving to make all roads combine into one central principle, *viz.*, unity? To fully reply to this very important and pertinent query would carry us somewhat beyond our present purpose, therefore it must be enough to ask assent to what ought but does not always appear to be a self-evident proposition, *viz.*, that the end of any work of art is to convey from its author to its spectator (reader, hearer, etc.) some idea or group of ideas forming a train of connected thought. Whether the end and aim of these conveyed thoughts should always be purely sensuous; (pleasure giving) or intellectual, is again another important question which must be deferred for the present. Suffice it to say that a work of art is in many ways closely comparable with a piece of writing. This being so, it will appear plain that one element of either is an undoubted connection between its parts.

Disjointed, unconnected conversation is bad enough even when we have facial expression, intonation, gesture, etc., to aid us. A disjointed book defeats its own ends and is an irritating annoyance. But a work of art out of harmony in its parts is out of court and also beyond appeal, seeing that one, perhaps the greatest, of its functions undoubtedly is not only to convey but to stimulate prompt attention and foster a further growth of ideas, the enjoyment of which is closely bound up with the very fact that not only are they a super-addition to what is directly conveyed, but also that they can only be participated in by this creative process.

How I Started a Successful Society.

BY A PROVINCIAL.

(Continued from page 162).

THE space in my opening contribution was mainly taken up by introducing to the reader myself and my subject, and by enlarging on the reasons which induced me to put my experiences on paper.

I will now proceed to expound *why* I started our society.

Here let me impress upon such as may be disposed to become the founder of an institution for the advancement of photography the wisdom of deliberating carefully and even lengthily before taking action; on the other hand, once a resolution is arrived at let no energy or swiftness in execution be lacking. In my own instance I pondered for more than a year before I decided to ask local amateurs to combine and "let the desert be made cheerful and bloom as the lily; and the barren places of Jordan run wild with wood."

It is hardly necessary to say that in the majority of cases less time for reflection would be needful, but in the town of which I am writing there happened to be circumstances to "give us pause." It is situated not two hundred miles from the midland counties and, although its own population exceeds eighty thousand, is in close proximity to a much larger city. At first sight it would appear that with such a town a local association of photographers was "a consummation devoutly to be wished." I therefore set about making preliminary enquiries. With some trouble I found that there already existed a small body of local photographers who were attached in the form of a kind of "annexe" to a flourishing local society which had been constituted for very different objects. This discovery it was that made me think twice, aye twice twenty times, before taking "up arms against a sea of troubles." Further enquiries caused me to think that the "annexe" in question was unable to act with the requisite freedom and energy in order to efficiently watch over the interests of local amateurs and stimulate the practice of the art-science in the neighbourhood. This opinion was strengthened on considering the muster roll of this photographic annexe. I was not long in estimating that in order to include a reasonable proportion of local workers the membership ought to have been four times what it was.

I would here venture to advise those living in other centres where conditions such as the above exist, to, if possible, emancipate photography from the thralldom of societies which have been originally formed for the advancement of other kinds of knowledge. The practitioners of our charming pursuit are a distinct class by themselves, with needs, ways, and aspirations widely differing from those of students who are devoted to, say, geology, or any other species of natural or physical science. What is more to the purpose at the present time, photographic amateurs outnumber probably all the *dilettanti* of other sciences put together. To subordinate this homogeneous majority to a heterogeneous minority is a distinct example of the tail wagging the body. Moreover it is an arrangement which operates very banefully for both interests.

Apart from the ordinary reasons which in all cases exist, and which I shall hope to refer to later on, the above considerations shortly explain my motives in organising our Society.

Having screwed up my courage to the sticking-point, I proceeded to commence active operations. I should here say that up to this period I had refrained from taking counsel with anyone, which was perhaps an error of judgment on my part, as certainly the advice and help of others would have been greatly valued; but I was led to act alone, firstly, because if the project failed I did not wish to involve anyone else in the consequent humiliation; secondly, for a strategical reason, *i.e.*, I apprehended the strenuous opposition of the executive of the above alluded to scientific society, and wished that my plans should be kept absolutely secret, to the end that when they were made known they should begin to take effect before the other side had time to undermine the movement. Having no confidant, the first move was in truth a very "bolt from out the blue."

My first public step, then, was to send letters to the editors of the technical and the local press. These had all been previously and leisurely drawn up, and written out ready for dispatching. Those to the local journals differed slightly in phraseology from

those to the technical weeklies, in order to be the better adapted to a slightly different set of readers, but they all substantially covered the same ground.

For reasons previously stated, I cannot give the *ipsissima verba* of either of the foregoing, but it is not necessary to do so; enough that I duly set forth the following points: (1) The inadequacy of facilities obtainable in the town for the study of photography. (2) The desirability of forming an association solely devoted to photography. (3) The leading advantages which the proposed association would aim at supplying. To these was added a request that those who in the abstract favoured the project should forward their names to the writer.

I here desire to thankfully acknowledge that one of the first morsels of encouragement which I received was a short "par" in this journal. Only those who have felt the doleful doubts which come in the necessary interval between inception and accomplishment can conceive what a comfort were the warm-hearted and genial words of the Editor of the AMATEUR PHOTOGRAPHER. They were the more welcome that a whole week elapsed after I had despatched the letters to the Press, during which time only one gentleman had sent in his name! It looked as if the project would prove a dead failure.

The next thing which happened was a letter in the journals from a member of the executive of the photographic branch belonging to the scientific society before spoken of. I need hardly say that the writer sought to show that an independent association was superfluous and inadvisable, and I confess that his forcibly written letter gave me a very *mauvais quart d'heur*. Luckily enough, the very next post brought me several letters of support, one of which was from a gentleman who was so optimistic in his auguries, and so lavish of his promises, that I felt quite transported with elation. It turned out that my correspondent was correct in his forecasts, but his promises were, alas! only beautiful mirages; anyhow, his letter stimulated me to fresh exertions at a moment when I began to feel down-hearted.

I think that the letter of opposition which emanated from the local scientific society was the turning point in my struggles, for, whether on account of the publicity obtained in consequence of the paper polemics which ensued, or out of sheer cussedness, I cannot say, but letters of approval or enquiry began to come in with tolerable frequency. Such is the irony of fate, that he who wrote the aforesaid letters with the object of preventing the formation of my then nascent association has since become a very welcome friend and has materially helped in the consolidation of our society. To his kindness, goodwill, and photographic enthusiasm and ability, I am here glad to bear my humble testimony and only regret circumstances do not allow me to name him. Could I do so he would be at once recognised as a very distinguished and talented amateur.

Having then obtained some few promises of support, I considered I was warranted in claiming the help of my friends, to none of whom had I up to this time applied. I do not know whether I ought to feel surprised, but I certainly was disappointed at the small proportion of acquaintances—I now call them—who lent me their aid; outsiders were far more ready to back me up than were "old chums."

Perhaps, after all, the fault lies more with me than with them, for it may be that my friends see too many personal deficiencies in me to venture upon following my lead. One useful deduction may be drawn which is that in an enterprise such as the one under consideration an absolutely friendless individual may succeed quite as well as one whose visiting list extends from Land's End to John O'Groats.

Another measure I adopted was to obtain, from such sources as I could think of the names of all interested in photography, and write to them, drawing their attention to my efforts. I calculate that on the average every three letters sent resulted in one promise of support. This average would have been higher but that I from time to time inadvertently wrote to members of the "Rip Van Winkle" society, as the older association has been irreverently but not ill-naturedly dubbed.

I also inscribed on sheets of cardboard, notices which I had no difficulty in getting displayed in the windows of local dealers in photographic materials.

By dint of restless activity, I had, in the course of a few weeks, accumulated sufficient promises to warrant my fixing a place and date for an inaugural meeting. As, however, nearly every supporter was an absolute stranger to me, it became necessary for me to interview as many of them as possible in order to gauge

their experience and their ability, and to discover what, if any, part in the management of the Society they would be suited for. This was a task which to do well required the natural aptitude of a Lavater, in order not to make an unsuitable selection; a certain amount of error was inevitable and duly occurred. I have read somewhere that words were given to us *not to express* but to hide our thoughts, and I verily begin to approve the paradox, particularly if it be extended to the concealment of talents; for although I used up my small stock of discernment and my large store of patience, I in several cases failed to induce those I interviewed to allow me to draw aside the curtain of reserve which hid their cleverness. Perhaps quite as provoking were those cases where acknowledged capacity existed, coupled with an obstinate refusal to help forward the movement.

In looking back I consider that the most valuable help is not obtainable from those best able to give it. Whether it is because their minds are too preoccupied to "enthuse" over anything fresh, or their sentiments are *Aut Cesar, etc.*, I cannot determine, but my advice is, look to the rising, not the risen men, for substantial help.

While undergoing this course of interviewing I had a meeting with a leading member of the "Rip Van Winkles," who assured me that the society in question had done all things possible for the advancement of photography, and that there were but few amateurs in the town who did not belong to it.

Most likely had I earlier met this gentleman he would have prevailed on me to give up my scheme, but I had by this time found that there existed quite a number of people who had never even heard of the "Rip Van Winkles."

I gladly take this opportunity of recording my impression (founded upon subsequent observation) that in so far as the above society was wanting in photographic vitality the cause was not in any wise due to the *personnel* of the section devoted to photography, which includes several gentlemen of unusual energy and acuteness who moreover possess technical qualifications of the highest order. In my estimation the sole and only reason why a larger measure of success did not crown their efforts was the paralysing conditions under which they perforce worked. That so capable an association of amateurs failed to obtain general support is the strongest of arguments in favour of the enfranchisement of photography from the rule of alien scientific societies.

And now the time drew near when the public meeting was to be held to discuss the advisability of forming our society. This gathering was advertised in the local journals, and announced in the technical press. Besides this, I wrote to all my supporters exhorting them to be present; but knowing of old how the most promising expectations are falsified by what actually happens, I looked forward to the eventful evening with considerable trepidation.

What happened at this preliminary concourse will be dwelt on in the next instalment.



QUARTERLY EXAMINATIONS IN PHOTOGRAPHY.

QUESTIONS.

- 1.—Give practical instructions for testing a lens, utilising such apparatus as an amateur may be supposed to have at hand.
- 2.—An exposed plate will be forwarded to you, which must be developed with eikonogen, and a silver print forwarded to the examiners. (The negative to be retained.)
- 3.—Define the term "fixed focus." Is this a possibility? And explain the method of determining the fixed focus of a lens.

Latest Day for Answers, September 28th.

RULES.

1. Answers must be received on the date stated each week in the AMATEUR PHOTOGRAPHER.

2. All answers must be preceded by the question, and should be written on one side of the paper only, and each answer must be on a separate sheet or sheets.

3. A *nom de plume* may be used, and must follow every answer, and be affixed to every specimen of practical work.

4. Answers are not limited in length, but preference will be given to concise answers without unnecessary amplification.

5. Those desirous of competing must apply to have their names entered. As these examinations are intended to encourage the study of the theory and practice of photography, authorities upon photographic matters and contributors to the photographic journals will not be allowed to compete.

NOTE.—No information of any kind will be given to competitors, and nothing but the answers must be included for the examiners. All other communications must be addressed to the Editor.

Marks will be given for all answers, and, when possible, the three best answers will be published. The answers will not be published till the week following receipt of the same, and the examiners will criticise each answer sent in, and when no satisfactory answer is received, will supply one. Three prizes will be awarded at the end of each quarter. (Full syllabus on application.)

All communications to be addressed to:—"EXAMINATION DEPARTMENT," AMATEUR PHOTOGRAPHER, 1, CREED LANE, LONDON, E.C.

Holiday Resorts and Photographic Haunts.

THROUGH NORTH DEVON AND SOMERSET WITH A CAMERA.

BY JOHN A. HODGES.

III.—*Lynmouth to Ilfracombe by Water—The "Detective" on Board—Ilfracombe Described—Its Attractions—Railway and Steamboat Excursions—A Capital Centre—The Harbour—When to Work—More "Whitewash"—An Iron-bound Coast—Hillsboro' Head—Lantern Rock—Hand-Cameras—The Ethics of Detective Work—Lee—A Profitless Excursion—The Coast Eastward—Watermouth Castle—The Creek—A Fine Spot for Artistic Work—The Caves—A Nasty Place for a Tumble—Combe Martin—The Church—Barnstaple—Queen Anne's Walk—The River Taw—Braunton—Choice Bits—Dark-Rooms at Ilfracombe.*

FROM Lynmouth to Ilfracombe is a delightful coach drive of about eighteen miles, or an alternative means of approach would be to take the steamer, which affords, perhaps, the finest possible opportunities of seeing at their best the cliffs and coast scenery for which the locality is noted. In rounding the numerous headlands on this deeply indented coast, opportunities frequently occur of taking snap-shot views, but the camera must be held as firmly as possible, and both shutter and plates must be very rapid. The writer is by no means an advocate of chance work, but such occasions frequently afford the means of securing a fine effect which would be well worth exposing a few plates to obtain.

Ilfracombe, though a more bustling and noisy town than any of the places we have previously visited, will be found very attractive by those who like to meet with all the conveniences and comforts of home life, and at the same time to be within easy access of good natural scenery. To such, Ilfracombe is eminently suited. Cheap trips by steamer to a great variety of places may be indulged in. Lynton, and a large portion of the district described in the last chapter may be made the subjects of day excursions, and the railway gives additional facilities for reaching other and more distant places. Hotels and good lodging-houses abound, the bathing and boating also are both safe and good. Therefore, of the photographer who goes to Ilfracombe and comes back disappointed, it may be safely said that he is hard to please.

The great advantage of the place, from a photographic point of view, is that there is a great deal of really good work to be done in the immediate neighbourhood. Let us commence

operations by strolling down to the picturesque old harbour. At low water the inner basin is left high and dry, and the best time for photographing is at half tide, when the reflection of the shipping, etc., in the still pools of water, and on the shining stretches of sandy mud, will greatly add to the pictorial effect of the composition. Everything connected with this portion of Ilfracombe has an appearance of age, the masonry of the piers and walls has been patched and cobbled at varying periods, and the houses in the locality have an old-fashioned and venerable appearance; but here again, unfortunately, whitewash has been used with an unsparing hand, therefore the negatives will require some care in developing, very little pyro being necessary.

The coast scenery about Ilfracombe is exceedingly fine, and the view of Hillsboro' Head, a prominent headland which dominates the town on the east, from the end of the Capstone

Parade, with a fine foreground of enormous ledges of rock, over which the sea is incessantly beating, and the intervening knoll upon which stands the curious old chapel of St. Nicholas, filling in the middle distance, together make a very striking picture. Some good views of the chapel and Lantern Hill may also be taken from Rapparee Cove, on the further side of the harbour, and from the hill itself a good general view of the town may be obtained. Ilfracombe is a capital place for the employment of a detective camera, and many will be the temptations to put it to what some would consider an illegitimate use, still if people will conduct their "spooning," and otherwise make themselves ludicrous, in the face of all the world, it becomes an open question whether they do not render themselves legitimate subjects for the photographer. However, such matters must be left to the good taste and discretion of the photographer himself.

Lee is a pretty little village in a dell by the sea, about four miles from Ilfracombe; the cliff walk is a breezy and invigorating one, but there is nothing

particularly noteworthy from a photographic point of view until Lee itself is reached, where round about the village many pretty bits will be found. Here may be seen the curious sight of a water mill, built almost on the beach; it is not, however, a very picturesque structure. Beyond Lee the country becomes monotonous and uninteresting, and altogether wanting in attraction for the photographer. The writer on one occasion took a hot, weary tramp to Morte Point and Woollacombe Bay, but on arriving there found nothing worth exposing a plate upon.

East of Ilfracombe the country is much better suited to the needs of the photographer. Taking the Lynton coach road, in about two miles we shall pass Watermouth Castle, a modern castellated building which many people will consider worth a plate. If the low wall which here runs along by the road side be climbed, we shall find ourselves in some meadows through which runs a stream hurrying on its way to Watermouth Creek



Inner Harbour, Ilfracombe.

Here the picture-maker will find much to gratify him; the narrow creek forms an almost landlocked natural harbour, in which one or two coasting vessels are generally lying. There is no right-of-way to this spot, but probably the photographer will not be interfered with in his pursuit of the picturesque. Retracing our steps to the main road, we shortly reach the Water-mouth caves, of which, if it be low water, some effective pictures may be made, and if an old boatman, who is generally at hand, can be suitably posed, in the act, for instance, of launching his boat, the picture will be still further improved. A little care is necessary in moving about on the rocks, which are covered with a treacherous and very slippery seaweed, in order to avoid slipping and damaging either one's person or apparatus, and the sceptical may learn that the advice proffered is the outcome of personal experience, for one of our party was suddenly found seated in about a foot of salt water—*verb sap*.

The approach to Combe Martin, about two miles beyond the caves, is very beautiful. The mouth of the Combe, from which, of course, the village is named, forms another of those charming little natural harbours for which Devon and Cornwall are so noted. The town itself consists of a long and straggling street, and does not offer many subjects to the photographer. It has the reputation of being a dirty place, and if appearances can be relied upon, does not belie its reputation. It would certainly not be a good place at which to stay. The church, however, is interesting, and has a fine tower: two plates, one for the exterior and one for the interior, may well be exposed upon it.

If the reader makes a prolonged stay at Ilfracombe and has the time to spare, he will do well to devote at least one day to Barnstaple and its surroundings. It is a somewhat old-fashioned town on the banks of the river Taw, which is here crossed by a bridge of many arches. Queen Anne's Walk, in the town, with the statue of Queen Anne, makes a pleasing picture. The best plan for the visitor, upon photography bent, to adopt, after taking a glance at the town, would be to stroll along the banks of the river for a mile or so up stream. The scenery, which is of the soft rural type, is very beautiful, and particularly suitable for photographic treatment. Instead of returning from Barnstaple station, a better plan would be to walk to Braunton, a charming little village, two stations short of Barnstaple on the Ilfracombe line. The country is richly wooded, and the situation of the pretty thatched-cottaged village on the banks of a glistening trout stream is exceedingly picturesque. A few hours spent there will reveal many pretty "bits" to the reader who cares to seek for them.

The writer, as already intimated, invariably defers development until his return, and strongly recommends his readers to follow his example. Access to a dark-room is undoubtedly a great convenience when one is pressed for time and wishes to expose a few extra plates. It is, however, seldom that one finds in a public dark-room all the little conveniences that so greatly tend to comfort in working; and moreover it is a messy and unprofitable business altogether, to carry chemicals or solutions with one, and the danger of working with new or possibly unknown formulæ does not need to be pointed out. It is to be understood that these remarks are intended to be quite general in their application, and are not levelled at any particular dark-room on the route which has been described. Those who do make it a habit to develop plates, or who require the use of a dark-room, will find several available in Ilfracombe—one at a chemist's shop in the High Street, and another belonging to Mr. Vickory, the well-known photographer, both of which can be recommended.

WENSLEYDALE.

WENSLEYDALE, or, as it is sometimes called, the "garden" of Yorkshire, is comparatively little known. Were it more so, the writer is sure that tourists in general and photographers in particular would patronise it more than they do. Although the hills lack the superior height and, in some cases, the wildness of their neighbours in Cumberland and Westmoreland, yet the upper part of the Dale is rugged enough for most people, whilst the lower part provides endless wood and river scenery, to say nothing of pretty waterfalls and picturesque ruins.

Wensleydale proper, or the Valley of the Yore, begins at Kilgram Bridge (a little below Jervaulx Abbey), and extends westwards to the borders of Westmoreland. The Northallerton and Hawes Branch Railway (connecting the North-eastern main line with the Midland) runs up the Dale, and for a central position,

Leyburn, a station about mid-way, is bad to beat. The chief hotels are the Bolton Arms (the oldest) and the Golden Lion. From either of these, conveyances of all kinds can be hired, whilst numerous excursions by rail or on foot can be made. Good lodgings are also to be had in the place. The chief places of interest and distances from Leyburn are:

Middleham Castle (key at cottage opposite) and church (key at rectory), 2 miles.

Jervaulx Abbey (key at gardener's cottage), 6 miles.

Bolton Castle, 6 miles.

Aysgarth Church and Falls (by rail), or by road, 7½ miles.

Semerwater Lake (rail to Askrigg, thence about 4 miles).

Hardrow Scar Force (key at inn) (rail to Hawes, thence 1½ miles).

Mill Gill Force (rail to Askrigg, thence ½ mile).

Whitfield Gill Force (rail to Askrigg, 1 mile further up same stream). Coverham Abbey, 3½ miles.

Besides these, there are any amount of pretty excursions less frequented, viz., the Bolton Woods, adjoining Lord Bolton's park and residence; Wensley and Spennythorne, where are interesting old churches; the former containing a very fine memorial brass.

The neighbouring valleys of Swaledale (Richmond, 10 miles from Leyburn, and Easby Abbey, 1½ further) and Coverdale (of which the tourist has a glimpse at Coverham) are well worth a visit. Leyburn Shawl is a natural promenade close to the town, commanding an extensive view, though not so fine as that to be obtained from Searth Nick, a mountain pass above Wensley Station. Hawes is the centre for wild moorland scenery, the "Buttertubs" Pass over into Swaledale and the "Maze Holes," a subterranean cavern, being amongst the "lions" of the place.

From East Witton (4 miles from Leyburn) a charming ramble can be made up on to the Fell, where the woods are very beautiful, and a pretty fall will be found at the south-east end (Deep Gill Force). Further east, "Swiss Cottage" is reached, from near which there is a magnificent view of the Vale of York, the sea being visible on a very clear day, besides the Cleveland Hills and York Minster.

For permission to photograph Coverham Abbey (of which hardly anything remains), apply to Mr. C. Other, at his residence close by; whilst for the Bolton Woods river scenery, the agent, Mr. T. C. Wyse Wensley, or the Hon. W. Orde-Powlett, Wensley Hall, would give leave. All the other places are free.

Mr. Smithson, Leyburn, a professional photographer, will give any information; and plates can be obtained from him. The writer has also no doubt that his dark-room would be available. Amateurs abound in the neighbourhood. Further information will be found in several "Guides to Wensleydale," to be had at Mr. Cradock's, Leyburn.

NOTES ABOUT NOTTINGHAM.

By JAMES B. WILSON.

Though one would hardly spend a holiday in this centre of the lace trade for photographic purposes, it may be interesting to those who have friends to visit there to know that there are a few really good pictures to be taken in the neighbourhood.

The best view of the Castle and rock is now spoilt by villas, if, indeed, it can be taken at all from the new Boulevard. The entrance is at the top of Friar Lane, and makes a good picture when the light is right, otherwise it is very flat. Permission is readily given to take the camera in the grounds after paying the small charge for admission. The two best pictures are the steps leading to the terrace and a general view taken from the pathway at the opposite side of the lawn; both may be taken in the afternoon. With a shorter focus lens other views may suggest themselves, but they do not make good pictures.

Clifton Grove is a short walk over Wilford Bridge, just over which is a picturesque old inn. The beeches at the entrance of the Grove look best from the Clifton end. A view likely to be missed is the backwater between the foot of the slope and the Trent; it is rather a rough climb to take the camera down the steep cliff and back, but quite worth the trouble.

A rather longer walk, but only requiring two plates, is over the Trent Bridge along the Ratcliffe road to Holm Pierrepont Hall and Church, Earl Manvers' seat.

Wollaton Hall is the finest subject in the neighbourhood; permission is obtained from Lord Middleton's steward, Mr. Wright, I believe. The entrance is at Lenton, and the lodge a very fine specimen of Elizabethan architecture; an avenue about a mile

long leads to the Hall. A good picture may be taken from the park, showing the entrance and left wing; from the lawn it is scarcely so artistic. It is wise to take six plates to Wollaton, as a snap-shot may be had of the deer in the park.

Depedale (Dale Abbey) is about three miles from Stanton Gate Station (M.R.). There is an immense arch left, said to have been a window; a thirteenth century tomb, the hermit's cave in the wood, and a very quaint little church, all interesting.

Buildings in Nottingham I need not mention, and those who like pretty bits will find plenty in the Arboretum.

Southwell is only sixteen miles away, so I think I may include it with Nottingham, and it is certainly worth the journey; six plates or more may be exposed, according to fancy. The cathedral is well lighted, and verbal permission to photograph the interior is given by the verger. Whatever else is left, a plate should be saved for the arch at the entrance of the Chapter-house.

I think this concludes the list of "shots" one can get about Nottingham, except, perhaps, a pretty canal bridge (in the main road), and the Hemlock Stone, at Bramcote.

A lens of moderate angle, about 60 degs., will include nearly all the architectural subjects—at any rate, all I have mentioned—and a week or ten days in the neighbourhood ought to produce at least a couple of dozen fairly interesting plates, though it is a manufacturing district.

Exhibitions.

GLASGOW INTERNATIONAL PHOTOGRAPHIC EXHIBITION.

[SECOND NOTICE.]

The portraits by professionals in Class I., "Whole-plate size and over," are a large and well-executed series of pictures.

H. VAN DER WEYDE obtains a special silver medal for his well-known picture of the Misses Dene, charming in the pose of each figure, the grouping of the whole being natural and beautiful. The lighting of the picture also calls for special attention; it is on the whole one of the finest executed works of art in the exhibition. In the same frame is also exhibited another picture by the same artist of the Countess de Grey and other two ladies engaged in sewing. This picture is also equally fine.

W. M. WARNEUKE, a Glasgow professional, gains the silver medal with four very meritorious pictures. No. 54, a charming little girl, is decidedly the best of the lot. If Warneuke's pictures have a fault it is due to their being rather overdone with the pencil; in fact, the same fault is too prominent in all professional work shown in the Exhibition. The pictures would have been more successful in many respects if less had been done to them.

The bronze medal has been gained by W. W. WINTER, with four good pictures. No. 1 in catalogue, a platinotype of Miss Smith, in which the figure is well posed and lighted; No. 2 shows care in posing; Nos. 3 and 4 are not quite so good.

ALEXANDER AYTON, JUN., shows a portrait of a young lady, (No. 5) of considerable merit, and a fairly good one of an old man (No. 6); but the other two pictures he exhibits are not of the same quality, having too much of the usual professional papier-maché accessories, which when carried to excess detract from the beauty of the portrait.

W. J. BYRNE shows a fine head of James J. Lupton, which is decidedly the best of his exhibits; the others not being nearly so good. "A Poor Crossing-Sweeper" has some merit, but in the other two pictures exhibited the background is too prominent.

CHANCELLOR AND SON show portraits in platinotype and silver. No. 14, in imitation of a statue, is well lighted and the tone is agreeable, but the other pictures, both in set A and B, do not call for any special remark.

WM. FERRIER has overdone his pictures with too many of the usual studio accessories. No. 24, to our mind, is the best of the lot. Mr. Ferrier would improve greatly by studying simplicity.

R. C. PLATT does not come up to the average of the professionals in this class. In No. 26 he has unfortunately placed a man with white hair against a white background, so that it is difficult to know where the head ceases and the background begins.

J. H. HOGG exhibits four red carbon portraits, in which the idea apparently of imitating Bartolozzi in style is rendered a

woeful failure in execution. No. 31, from an artistic point of view, is simply a failure. The manner in which the hat of the figure is placed over the left eye is ludicrously like 'Arriet on her return from a bank holiday excursion, slightly "breezy." How Mr. Hogg could make such a mistake is the more to be wondered at, seeing that his platinotypes exhibited immediately below are not without considerable merit, especially No. 34, which he entitles "Finishing Touches," representing a girl painting vases. He is, however, rather unfortunate in Nos. 35 and 36 with the figures he has chosen. "'Tis sweet to know there is an eye will watch our coming,"—and we should say a considerable extent of body too.

G. MACKENZIE, JUN., exhibits platinotypes rather foggy.

SWEET and KINLOCH exhibit groups of the usual style of provincial photographers. No. 44 is considerably below exhibition standard.

J. G. TUNNEY and Co. have a set of platinotypes, No. 45, portrait of a young lady, being soft and well rendered. Misses and Master Milne have rather staring eyes, but otherwise, if Messrs. Tunney and Co.'s pictures had been all equal to the quality of No. 45, they would have had a run for a place.

F. R. PINEIRO exhibits some fancy costume portraits from life, which are not without merit, especially one evidently intended to represent Judith and Holofernes, which is certainly original in treatment.

Class II., for "Portraits by professionals under whole-plate size," has but few exhibits, and on the whole they do not come up to Class I. in quality.

A. SWAN WATSON has two sets of three portraits each. Thoughtfully lighted, Mr. Watson would in all probability have obtained a reward if he had not unfortunately neglected to attend to the rules of the competition, which required four pictures to complete a set.

The silver medal in this class has been gained by HAROLD BAKER, with a series of splendidly posed figures, mostly in Greek costume, the centre one of frame 74 reminding us very much of a study by Moore, the painter, both in figure and pose. These prints, however, leave room for improvement in the toning. They are just inclined to be a little foxey.

W. J. BYRNE obtains the bronze medal for studies of children, some of which are, indeed, charmingly rendered, and are well worthy of the reward they obtain.

CHANCELLOR and SON exhibit in this class also a set of platinotypes, which are spoiled by the artificial style in which two at least of the figures are posed. One, a little child, is sitting on a crescent moon; the other, supposed to be a fisher boy; but they are altogether *bad in art*, although they are first class in execution. Another figure in the same frame is quite a contrast, a little girl with her dress drawn up at her back, natural and roguish-looking.

W. B. MITCHELL and EDWIN H. HAZELL exhibit very fair work, and so do SWEET and KINLOCH, but the exhibits of the latter are of the usual show-case order.

G. COMRIE SMITH shows good portraits, carefully executed and lighted.

ERNST LAMBERT, on the other hand, has portraits showing merit in lighting but which are rather poor in execution.

Class III., "Enlargements by Professionals." The silver medal is gained by VAN DER WEYDE with enlargements from the portraits exhibited in Class I. They are somewhat low in tone, and there is a want of the sparkle and contrast which is so apparent in the original.

T. and R. ANNAN and SONS gain the bronze medal with a meritorious autotype portrait of the late Professor Jenkins. They also exhibit a very good portrait of Professor Max Muller.

G. COMRIE SMITH has a well-finished portrait enlargement, and ALEXANDER BROS. have two portraits of considerable merit. No. 109, Archbishop Eyre, is rather high in the frame. No. 110 reminds one very much of Burne Jones' work.

The other enlargements in this class do not call for any special remarks, except that G. B. BRADSHAW shows rather a sooty "sweep."

Class IV., for "Enlargements other than portraits, by professionals," has one or two interesting studies.

No. 121, by ALEXANDER BROS., has been awarded the silver medal although 120 is perhaps finer in conception—a dusty miller standing looking out of a window with the light shining on his figure. This would have been better without retouching and printed in sepia platinotype.

T. and R. ANNAN and SONS gain the bronze medal with two enlargements, which are very good, especially No. 108, which is an admirable conception. It is entitled "Morning on the Mountains," and is an enlargement from a hand-camera negative. The effect of the breaking morning light as a background to the figures is beautiful. There are no other pictures of special merit in this class.

Coming to the portraits by Amateurs—Class VI.—the silver medal has been awarded to PRINCE ANTONIO RUFFO with four portraits of very fine quality; in fact, from an artistic point of view there are no portraits in the Exhibition that surpass them.

CLARENCE B. MOORE gains the bronze medal with four well executed portraits—137, that of an old coloured man, and 138, of a laughing darkey being specially good.

In Class VII., for smaller portraits under whole-plate size, there has been no award of the silver medal, the merit of the pictures not coming up to that standard, but the judges have awarded a bronze medal to No. 159, a series of Young Heads, exhibited by Mr. W. J. JENKINS. Mr. Jenkins has a series of portraits in Class VI. which are also good, more especially one of the head of a little girl.

As a rule, however, amateurs are not successful in portraiture. We now pass on to Class VIII., "Enlargements of portraits by amateurs," which calls for no special remark except that in this class no silver medal has been awarded, but the bronze medal has been gained by W. H. KITCHEN for an enlargement, "Relieving a Helpmate," representing a man sharpening a scythe.

In Class IX., "Enlargements other than portraits," there are thirty-two frames exhibited. The silver medal has been awarded to RALPH H. ELDER, with a "View in Brittany," which is very meritorious, having been enlarged from a hand-camera negative. The picture is somewhat black on the left-hand side, and if the negative had been a little longer exposed the picture would have been improved thereby.

W. SNELL ANDERSON gains the bronze medal with an enlargement of a fishing boat coming into harbour. It is hung rather high to see the details, but it appears to be all right.

In this class is exhibited "The Mosque of Sultan Achmet," by D. R. Clark, which shows the wonderful detail of the ceramic tiles on the walls of the interior of a Turkish mosque.

WM. MILLER shows a well-composed picture of "A Scene on the Dutch Coast." It is rather overdone, however, and looks foggy.

GEORGE SHERRIFF has a photograph from Northern Italy on Blanchard's paper, evidently from an enlarged negative.

W. GOODWIN shows a nice exhibit of sheep from a hand-camera negative.

JOHN MORISON, JUN., exhibits a bromide enlargement of an "Avenue near Bridge of Allan." The use of a wide-angle lens is rather pronounced in this picture.

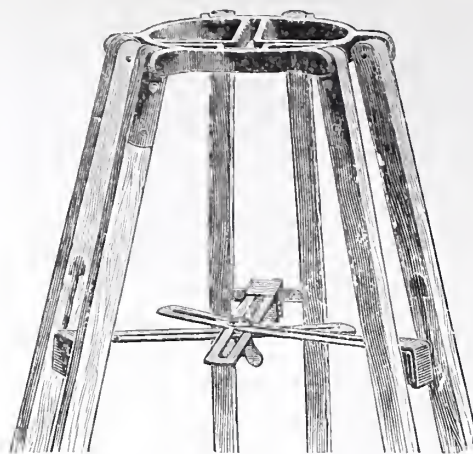
The foregoing are the principal pictures in Classes I. to XI. We shall leave until next week our notice of the Landscape Classes, the pictures in which are very numerous.

APPARATUS.

MESSRS. JAMES MORE AND Co. (177, Renfield Street) had a good general show, our particular attention being called to a hand-camera for stereoscopic work, for which they received a medal. This firm are paying great attention to lantern work, and have charge of the lantern displays at the exhibition.

MR. J. LIZARS (200, Sauchiehall Street) has turned his attention to cameras for photo-micrography, and shows a well made apparatus simple and complete, which is sold at £6 10s. Mr. Lizars was awarded a medal for a new "Developing Lamp," very simple in construction, but with the distinct advantage that by means of a reflector placed in front of the chimney behind the coloured screen the light is reflected to the back of the lamp, and so diffuses and prevents the glare in the centre of the screen as well as protecting it from the action of the heat. These lamps are sold for 8s. 6d., and are well worth the money.

MESSRS. GEORGE MASON AND Co. (180, Sauchiehall Street) have a good show of useful apparatus, from the modest printing frame to the 20 by 24 studio camera with stand. Mr. Mason has done much to simplify these large stands by a system of counterbalancing; they are practically automatic, and have every possible movement. The firm show, what to us is quite new, the "Choroscope," a single lens, for groups or portraits, which has in the same mount a rotating diaphragm and a time and instantaneous shutter of novel construction. These are sold half-plate



size for 15s., and should certainly be seen. A curiosity is exhibited in a turn-table for camera, made by one George Jack, in 1854, which would pass for a model of the turn-tables of the present day. The best thing in the exhibition is the tripod holder of which we give an illustration. With this holder

it is possible to make the three legs of the tripod as firm as if they were cut out of the solid, at whatever angle they may be placed. For interiors and street work such a holder will be invaluable, and as it folds into a very small compass it should be included in the outfit of every amateur. The firm were awarded a medal for the general excellence of their exhibits.

There are other Glasgow firms exhibiting—Messrs. McGhie and Co., Mr. John Stuart, etc.—but their goods do not call for any special comment.

MR. WILLIAM MIDDLEMISS (Bradford) shows the very admirable lantern-slide making apparatus the joint invention of Professor Barr (Glasgow) and Professor Stroud (of the Yorkshire College). The apparatus has for its object the preparation of lantern slides from illustrations in books and periodicals, etc.; and from a very brief inspection of it we should say that the apparatus, which is sold for £10, would be invaluable, and that it will be very largely bought by amateur photographers. A medal was awarded to Mr. Middlemiss.

MESSRS. W. WATSON AND SONS (London) received a medal for excellent workmanship in cameras, etc. They exhibit several types of cameras, the Vanneck, and a very beautifully-finished camera in which all the mounts are of aluminium, which is specially prepared for Messrs. Watson, having an amalgam which ensures hardness without brittleness. The Diazotype specimens attracted considerable attention.

MESSRS. TAYLOR, TAYLOR, AND HOBSON (Leicester) show their lenses, levels, the Hawkeye camera, featherweight slides, etc., and a new form of sliding diaphragm in which all the apertures are pierced in a strip of metal and pass through the lens mount.

The apparatus section, though small, is well arranged, and visitors to the exhibition will have an opportunity of seeing a very well-assorted selection of photographic apparatus.

Societies' Meetings.

Exeter.—The usual monthly meeting was held on the 1st inst. at the College Hall. A humorous account of the excursion to Dunsford Bridge on Bank Holiday was read by the Vice-President, and prints and lantern-slides illustrating it were handed round. The subject of admitting photographers as *hon.* members of the Society gave rise to a lively discussion. It was introduced by the President, who was followed by Mr. Cole warmly supporting their admission. It was thought that there were many who did not, for certain reasons, join the Society, but whose presence would be welcomed, and who would be able materially to assist the Society in its work. The Vice-President thought that a difficulty would arise in the future in drawing a line between ordinary and honorary members. Eventually Mr. Cole proposed and Mr. Lake seconded a motion that the Council be asked to formulate a scheme, and bring it forward at the next general meeting. Mr. Wall asked if any instructions had been issued with regard to sending in prints in connection with the survey of Exeter. Finding that nothing definite had been suggested, he moved that two prints of each subject be sent in, one unmounted, either in bromide or platinotype, and the other in any position and mounted. Major Dowdall feelingly spoke of the inconvenience attending the taking of buildings in the more populous parts of the city, and suggested that if the scheme were

more widely known, the citizens would co-operate by allowing the use of their premises for the purpose. A further series of lists of suitable objects was distributed, notice of the last excursion for the year was given, and the meeting terminated.

Holborn.—At the meeting on the 4th inst., Mr. E. H. Bayston presiding, the subject for discussion was "Architecture" (exterior and interior). Mr. Fred. Brocas opened the discussion on "Exterior Architecture," which, he said, might mean anything. It might mean a doorway, or a gateway, a house, or Westminster Abbey. It did not appear difficult, but there were certain lines to be observed, among the chief being, "Never get directly opposite the subject." He then showed various photographs demonstrating this axiom. Another was that the camera should be perfectly level. He also gave some excellent hints which experience had taught him during his life as a camera-man. Mr. Golding then gave the members present his experience in taking interiors, which he characterised as the most difficult branch of photography. One of the chief difficulties was the exposure, which would differ in every interior taken. Experience alone would enable one to gauge the right exposure. Slow and thickly coated plates were best. The plate must be backed, or halation would certainly be present in the resulting image. Backing does not do away with halation altogether, but it does certainly lessen the evil. A good backing was a piece of insensitive carbon tissue, perfectly black, soaked in weak glycerine, and then squeezed on the back of the plate. It could easily be stripped off before development and used over and over again. He thought it was a mistake to get the whole of the interior of a church on the plate. A mass of detail is lost in this way, which is, perhaps, the most interesting in an interior. With regard to exposure, the rule is to expose for the shadows, and not to give too short. He had found Watkins's actinometer of some use to him in arriving at the right exposure. Another important matter was judicious and cautious development. He used pyro and ammonia, and commenced with the following:—half grain of pyro, one grain bromide, and half a drachm of ammonia to every ounce of developer. When the high lights begin to show, coax detail out with ammonia, then add pyro, and obtain sufficient density. He showed an excellent 12 by 10 interior, illustrating various points in his speech. Some discussion followed. Members are requested to turn up in force next Friday night.

Leeds.—The members of this Society met for the first time after the summer vacation on Thursday evening the 3rd inst. In the absence of the President, Mr. Godfrey Bingley, through illness, the chair was taken by Dr. Jacob. The evening was devoted to an exhibition of negatives, prints, etc., taken during the holidays. There was a good attendance of members, and amongst the examples of work brought for exhibition the following may be mentioned: Mr. Rob. Bownas, Aristotype prints; Mr. F. Butterworth, a fine collection of 12 by 10 prints on silver and Obernetter paper; Mr. A. R. Dayson, hand-camera views; Mr. Herbert Denison, $7\frac{1}{2}$ by 5, and hand-camera prints on Obernetter and platinotype; Mr. E. Kinsley, half and whole plate Obernetter prints; Mr. A. A. Pearson, a large collection of hand-camera views of Whitby and neighbourhood; Mr. R. W. Savage, Obernetter and matt-surface prints; Mr. H. S. Walker, negatives of Derwentwater, etc.; Mr. S. A. Warburton, pictures mounted in optical contact with the glass. A very agreeable evening was spent in discussing the various exhibits and processes involved. The next meeting of the Society will be held on Monday evening, the 21st inst., in the Society's room, Mechanics' Institution, when Mr. G. H. Rodwell will give a demonstration of "Lantern Slide Making."

Lewes.—The annual meeting was held at the Fitzroy Institute on the 25th ult. Mr. J. G. Braden occupied the chair and the attendance included Alderman White, Councillor Wightman, Mr. E. J. Bedford (hon. sec.), Mr. C. A. Wells, Mr. J. Farncombe, jun., Mr. E. H. Fuller, etc. The minutes of the last meeting were read and confirmed, and on the motion of the Chairman, seconded by Councillor Wightman, Mr. George Carpenter was unanimously elected a member of the society. Mr. Bedford then read the annual report of the Council, which expressed pleasure at the continued prosperity of the society and went on to say that four new members had been elected during the year and three had resigned, leaving forty on the books. The exhibition of members' work held on January 28th brought together a very interesting collection of photographs, etc., and was a success, although, owing to the weather, there was a financial deficit. The treasurer's report was satisfactory, showing a balance in hand of £1 19s. 4d., notwithstanding a deficit of £3 9s. 9d. in connection with the exhibition and also several heavy items in the expenditure which would not occur another year. The report was unanimously adopted, the Chairman remarking that it was a very satisfactory document. The election of officers was then proceeded with as follows:—President, Mr. J. G. Braden; hon. secretary and treasurer, Mr. E. J. Bedford; vice-president, Mr. Tunks; committee, Messrs. W. B. Funnell, E. Miller, P. Morris, G. J. Wightman and H. B. Constable, the last-named gentleman being appointed in the place of Mr. C. R. Wells, resigned. The set of hand-camera pictures by Mr. Percy Morris,

which gained a silver medal at the Cardiff Photographic Exhibition were on view in the room, and were much admired. During the evening certificates were presented to Mr. W. Young for enlargements and Mr. J. Tunks for lantern slides.

Lewisham.—At an ordinary meeting held on the 4th inst. Mr. Alfred H. Miles in the chair, Messrs. E. Eastwood, Stoddart, Gaddes, Barton, and the Secretary gave a demonstration on "Developing." The next meeting takes place on the 18th inst.

Liverpool.—The seventh ordinary meeting of the twenty-eighth session, was held on the 27th ult. Mr. Paul Lange (President) occupied the chair, and there was a large attendance of members. In the absence of Mr. Wm. Tomkinson, Mr. John Wells reported on the excursion to Knowsley Hall on the 6th inst. Messrs. Adams and Co., London, had sent one of their Lightning tripods for exhibition, which attracted much interest. In the unavoidable absence of Mr. F. Anyon, who was to have read a paper and practically demonstrated the making of "Home-Sensitised Paper," Mr. J. H. Welch, at very short notice, gave a most interesting demonstration on the working of the Blackfriars Photographic and Sensitising Company's new Celerotype paper. Mr. Welch developed a number of prints (some of which had been prepared by the Hon. Secretary), with the bath recommended by the Company, published in the issue of the AMATEUR PHOTOGRAPHER on the 14th August, and showed the variety of tones obtained by stopping the development at certain stages. The proceedings concluded with the exhibition by the aid of the association's lime-light lantern of about 200 lantern slides (the prize slides of the Liverpool International Photographic Exhibition), which now form a handsome addition to the collection of valuable slides the property of the Association. Mr. Thomas S. Mayne ably described the slides in his usual graphic style, and the lantern was skilfully manipulated by Mr. P. H. Phillips.

North London.—At the general meeting on the 1st inst., Mr. Coventon in the chair, Mr. Bishop asked for a good test for hypo in prints or negatives, and Mr. Mackie drew attention to the starch test, and the Secretary drew attention to the plan recommended by Mr. Bothamley for removing hypo from the film, in which a well washed negative is soaked in water to every 5 oz. of which has been added about a drachm of a twenty-volume solution of hydrogen peroxide. The plate is soaked for some time, then washed and allowed to dry with free exposure to air. Alum acidified with hydrochloric or better citric acid may be used in place of the peroxide. A short discussion then took place on various developers. Mr. Bishop gave the potash developer which he used, and which was a modification of that originally issued by Mr. Platt:—(1) Soda solution: Carbonate of soda (ordinary, not bicarbonate), 16 drm.; sulphite of soda (crystals), 8 drm.; water, 8 oz. (2) Potash solution: Carbonate of potash (ordinary), 16 drm.; sulphite of soda (crystals), 8 drm.; water, 8 oz. (3) Pyro solution; Pyro, 80 gr.; bromide of potassium, 40 gr.; sulphite soda, 20 gr.; nitric acid, 10 minims; water, 5 oz. For ordinary exposures, 2 parts diluted pyro, and 1 part combined soda and potash (combined in equal volume), and apply direct to the plate. For rapid exposures the pyro and combined solution applied in equal parts. Mr. Parfitt showed an enlargement on bromide paper, and gave Mr. Cowan's developer for bromide paper and negatives, viz., 4 gr. of eikonogen, 16 gr. of sulphite of soda, 2 gr. of carbonate of lithium to the oz. of water. Double the quantity for negatives. No clearing solution is used; wash under tap, and put into water. A quarter of a grain of bromide of potassium can be used if necessary. A question having been asked about mountants, Mr. Mackie said that the secret of making starch paste was to use as little water as possible, and to have it boiling. Mr. Tanner asked if it made any difference in development whether bromide of potassium or bromide of ammonium was used in a developer. Mr. Mackie said that virtually it made little difference, but less bromide of ammonium was wanted than of potassium, and a greener tinge was given to a lantern slide when using the former. The society has determined to support the affiliation scheme of the Photographic Society. On the evening of the 15th inst. Mr. Howson will give a demonstration on the new Gelatino-Chloride paper.

Richmond.—At the meeting on the 28th ult. Mr. Ennis presided, and there was a good attendance. Mr. Cembrano showed Marion's lens-shade, and a universal flange, on the principle of the iris diaphragm, to fit any sized lens. The subject of "Shutters" was revived. Mr. Faulkner showed several of his own design and make, and Mr. Cembrano showed Place's, Thornton-Pickard, the Richmond, Guerry's, and Farnell's. On the 4th inst. Mr. Hunter presided. Mr. Richardson showed an actinometer of his own make for timing the printing of platinotype and carbon prints, etc. The subject for discussion was "Testing Lenses." Mr. Ardaseer explained very clearly the mode of testing for faults in mounting and grinding and the colour of the glass, and for iridescence, bubbles, flare-spots, "ghosts," spherical aberration, non-coincidence of visual and actinic foci, curvilinear distortion, astigmatism, flatness of field, and cover-

ing power. Mr. Cembrano added some remarks on polish and striation, and the importance of accurately measuring the focal length of the lens and the apertures of the stops, and showed some plates which he had exposed to test covering power. Other members took part in the discussion, which was of great interest. Outings took place on the 22nd ult. to Cobham, and on the 5th inst. to Pinner, both being favoured with fine weather.

Rotherham.—The monthly meeting was held on the 1st inst., Mr. E. I. Hubbard (a Vice-President) in the chair. There was a fairly good attendance of members. Negatives and prints resulting from the excursion to Roche Abbey on the 8th August were exhibited and criticised. The fourth excursion of the season was arranged, the place selected being Conisbro' Castle. Mr. James Leadbeater, the hon. treasurer, gave a practical demonstration of the working of Eastman bromide paper, producing three excellent prints, which were handed round for inspection. He referred to the artistic possibilities of the process, and to the convenience of manipulation, both these qualities making it especially suitable to the requirements of the amateur. A further advantage of bromide paper work was that the exposure could be made by gas or oil light.

Sheffield.—The usual monthly meeting was held in the Society's rooms, Masonic Hall, on the 1st inst., the President, Mr. B. J. Taylor, in the chair. There was a very good attendance of members. After the election of two auditors the arrangements for the annual meeting were made and the programme of next year's work discussed.

Several interesting papers and practical demonstrations were announced to take place during the year, and an enjoyable winter session interspersed with sundry lantern and social evenings is anticipated.

Tunbridge Wells.—The sixty-second ordinary meeting was held on the 3rd inst., Mr. Daniel Howard in the chair. Mr. J. M. Bottomley was duly elected a member. The evening was devoted to the examination of prints brought by members for criticism, after which Mr. J. W. Morgan showed a new camera stand he had made, which was quite novel in construction, very rigid, and had an interlocking arrangement by which the legs, which were sliding, could not leave the top. The idea was perfectly new, and he was much complimented on the excellent way he had made it, and it was the general opinion it was the lightest stand that had been seen.

Mr. F. W. Hart has notified us of his change of address, which is now 96, Stoke Newington Road, N. Mr. Hart is well known for his magnesium and flashlight apparatus, of which we can speak most highly from personal trial. He has also a very cleverly designed plate washer, which seems to do its work effectually and economically. Mr. Hart does not confine himself, however, to these articles, but will supply all photographic and optical goods, and execute repairs, photographic printing, retouching, etc.

To Correspondents.

All communications for these columns are to be addressed to **The Editor, "Amateur Photographer," 1, Creed Lane, Ludgate Hill, London, E.C.**

RULES.

1. Write clearly and distinctly on one side of the paper only.
2. Write each Query or Answer on a separate sheet of paper.
3. Write the name and address legibly on the back of each communication, and sign all Queries and Answers with name or *nom de plume*.
4. All matters for these columns MUST be received by TUESDAY MORNING'S POST.
5. The Editor does not undertake to answer questions by post.
6. In answering Queries, correspondents are requested to mention, in every instance, the number and full title of the query referred to.

QUERIES.

5012. **Facile Hand-Camera.**—Will someone give his experience with a Facile hand-camera, especially as to the best plate to use, the most useful stop, and the best developer? I have used Thomas' extra rapid, and Ilford special rapid with stop f/22, but with indifferent results. It seems difficult to get a very sharp picture. —L. R.

5013. **Enlarging Camera.**—Would any kind reader oblige by giving particulars as to the cheapest get up or how to make enlarging camera to use, if possible, with Lancaster's quarter-plate Instantograph, and if same lens, etc., can be used, as I do not wish to go to any great expense, and oblige? —ECONOMY.

5014. **Shutter and Tripod.**—A friend in India having written me to send him out best shutter and tripod I can lay hands on as suitable for a very hot climate, will someone who knows these parts advise me in the selection, where to go, and what kind to get? Tripod to be very portable, but strong enough for rough wear. —COMMISSIONER.

5015. **Thin Negatives.**—Will someone tell me if thin negatives are better printed under green glass or tissue paper? —REGINALD.

5016. **Ilford Plates.**—Should both ordinary and special red-label Ilfords be developed till all detail seems to have disappeared, the plate quite black as recommended in answer to 4968, and how long should both these plates take to develop, exposure having been correct? —LE QUEENE.

5017. **Acetate.**—Is it necessary to replenish the acetate as well as the gold in an acetate toning bath of 60 grs. acetate and 20 oz. of water. In adding bicarbonate of soda to neutralise the gold, should this be added each time the bath is used, and in what proportion? —LE QUEENE.

5018. **Earl's Court, Club at.**—Could anyone kindly tell me of the nearest photographic society or club to Earl's Court, and let me have particulars of same? —N. M. H.

5019. **Lantern Slides.**—Could anyone tell me how

to make lantern slides from half-plates negatives without any costly apparatus? I have a Wray's R.R. lens, and thought that by means of a box properly arranged with my camera, I could dispense with a lantern, etc. Many thanks for any information. —N. M. H.

5020. **Reducing Prints.**—Is it possible to reduce ordinary silver prints after being toned with gold and fixed? If so, any information would oblige, as I frequently leave my prints out too long, and cannot reduce them enough in the fixing bath without the whites becoming yellow. —N. M. H.

5021. **English Plates.**—Will someone kindly state whether plates by English makers are to be procured in Neuchatel (Suisse)? —MERCI.

5022. **Neuchatel.**—Is there any public dark-room which I could have admission to at a small charge, and any other information that might be of use? —MERCI.

5024. **Dark-Room Ventilation.**—I have built a dark-room on the plan described in "Photographic Scraps," page 91; but in my case the partition is carried up to the ceiling, which is 10ft. high. What is a good and at the same time cheap way of ventilating such a room? If by piercing holes in the partition, state distance apart of outer and inner holes, and the size of the holes—so as to preclude the possibility of light entering by them into the dark-room —COLONEL.

5025. **Stains.**—I have stained a dark grey coat with nitric acid, burning it yellow. Is there a means of restoring the colour? —GRAYS.

5026. **Matchless Camera.** by Bloomer and Co., of Rhyl. Has any brother amateur used or examined one of this make of hand-camera? If so, can he recommend it as a well-made and thoroughly efficient instrument? —CLIFTON.

5027. **Porcelain.**—I should be much obliged if someone could tell me a good way to mark porcelain and vulcanite dishes, so as to keep the same oishes for the same chemicals. —F. BERNARD SMITH.

5028. **Fog.**—I find that my plates are fogged by light coming in through the diaphragm slot of my lens, the fogging being present even when using a stop. Is there any remedy for this? My lens is a Ross triplet, with Waterhouse stops. —F. BERNARD SMITH.

5029. **Vignette.**—Will someone kindly recommend a good vignette? Have tried the ordinary glass ones, but they do not produce a nice soft vignette like the professionals'. Have heard they use tissue paper. Can anyone give me a little information respecting this? Shall esteem it a great favour. —LENS.

QUERIES UNANSWERED.

Sept. 4.—Nos. 4904, 4906, 5007.

ANSWERS.

4920. **Eastman Films.**—I see your correspondent "Carbonate" says "It is almost impossible to keep single films quite flat." He has evidently never seen Tylar's film-holder, as this keeps them flat during development, and is a handy contrivance for washing and drying them. —CELLULOID.

4934. **Focal Length.**—In reply to "E. J. T." your query is one which ought not to be answered, as any amateur who has a camera and understands photography even a little ought to know. The focal length of a camera can be found by measuring it yourself, it being a very little trouble to do it. As for an object being in sharp focus, it can be in focus at 2 in. from the lens, as well as two miles from the lens. What is the good of bellows to your camera if you want all these little things told you? It is impossible for me to tell you the exact distance unless I see the object. "Practice makes perfect." —W. H. ELLIS.

4934. **Focal Length.**—E. J. T. does not state whether the lens is a half or quarter plate, and therefore it is impossible to give any information. —OSIRIS.

4947. **Raised Film.**—The cause of the raised appearance is the insolubility and less water-absorptive power of the image—a fact noticed by Warnerke in 1881. It cannot be avoided and can be increased by bathing in bichromate of potash, the developed and well washed but not fixed negative. There is more than one process founded on this fact, but details would take up too much room. —OSIRIS.

4947. **Raised Film.**—In answer to "Houfer's" query, I am afraid his complaint has hardly ever occurred, so the best way to get at some answer to your query would be to write to the manufacturers of the plate which has its film raised as stated. —W. H. ELLIS.

4964. **Aluminium.**—This may be obtained from the Alliance Aluminium Company, 7, Great Winchester Street, London, E.C., who will also do all you want. —OSIRIS.

4970. **Quadrant Hand-Camera.**—I have used the Quadrant this summer with good results, and without a hitch in the changing apparatus. —OSIRIS.

4971. **Enlarging.**—Yes, and here are some directions. Make a square box of $\frac{1}{2}$ in. deal, with a hole in one side the size of negative to be enlarged. At the opposite side make a door to admit a powerful oil lamp. The chimney must be connected with a hole in the top of box, and there should be a metal cone let into this hole to take away the heated air, and to prevent light from escaping. An opal globe should be used to diffuse the lamp-light, or a screen of ground-glass interposed between the light and the negative. Bore half a dozen holes in the bottom of the box to promote combustion. The negative is fixed by two small turn-buckles and a rebate in its hole, film-side outwards. The camera is placed close up to it, and the enlarged image will be thrown on to a screen placed to receive it at the proper distance, focussing being done with the camera screw. The distance from the lens to the screen, enlarging from quarter-plate to 12 by 10 with a 5 in. focus lens, is 20 in. No condenser is needed. —LEN.

4976. **Ventilation of Dark-Room.**—Drill a row of holes at the top and bottom of the door, and fasten on outside and inside, just above the holes, a strip of wood 3 or 4 in. wide, sloping down at an angle of 45 deg. No direct light will then come through. A chimney would be a great advantage, and this ought to have a cone-shaped covering fitting over it, which would prevent the access of light, but allow the air to circulate. —CAILLOU.

4984. **Dead Black.**—"Another Beginner" could not do better than get a pennyworth of lamp-black and a little Canada balsam. Put a few drops of the latter on a piece of glass and as much lamp-black as the balsam will take up; mix thoroughly with the blade of a knife, adding the black by degrees till the whole forms a tolerably dry ball. Put the ball in a saucer and gradually thin down with turpentine till of the consistency required. —W. H. ELLIS.

4984. **Dead Black.**—A good dead black varnish can be made by very thoroughly mixing ivory black with common shellac varnish. It will do for either metal, stone, or wood. —KENDAL.

4989. **Exposure.**—The light is far more actinic, but the shadows as a rule are blacker. From some letters which appeared some time back, the exposure is England 1, Mediterranean 2-3rds. —OSIRIS.

4990. **Toning Prints.**—I had apparently made a mistake, which I am sorry for; it is 2 ozs. of hypo to 20 ozs. of water, not, as stated in No. 4990, 2 oz. of hypo to 2 oz. of water. —E. L. B.

4990. **Toning Prints.**—No wonder E. L. B.'s prints turn brown; his fixing solution is about ten times too

strong. I use 3 oz. of hypo to 20 of water, after toning with 1 dr. of gold (stock solution), 30 grs. acetate of soda, 8 ozs. distilled water. Stock solution is made by dissolving a 15 gr. tube of chloride of gold in 15 drms. of water; in the above you get 1 gr. of gold, which is sufficient to tone a sheet of paper purple bronze tones.

4990. Toning Prints.—Your fixing bath was a great deal too strong, and very likely acid. For toning, use

Gold chloride	..	..	1 gr.
Borax	..	..	48 "
Warm water	..	..	8 oz.

Mixed fresh every time. The above will tone a full-sized sheet of sensitized paper. Prepare your chloride of gold by dissolving the 15 gr. tube contents in 15 dr. pure water, then for every grain of gold you require use 1 dr. of solution. In addition to the book recommended (in Query No. 4992) by the Editor, I would advise you to get Burton's "Modern Photography" (1s.) and Wall's "Dictionary of Photography" (2s. 6d.).

Fixing bath for prints:—

Hyposulphite of soda	..	..	2 oz.
Hot water	..	..	20 "
Strong ammonia, a few drops.	..	..	(1 pint)

4990. Toning Prints.—"E. L. B." is using his fixing bath much too strong. The following is good:—

Bicarbonate of soda	..	..	3 gr.
Gold chloride	..	..	1 "
Water	..	..	5 oz.

Hypo	..	..	1 oz.
Water	..	..	5 "

Keep in the fixing bath for from ten to fifteen minutes. The gold bath is ready for use immediately.—PEPO.

4990. Toning Prints.—Your hypo is far too strong, 4 to 5 oz. to the pint is quite as strong as it ought to be. I should think the excess of hypo might be the cause of the prints turning brown, but I am not quite sure. You had better not use a combined toning and fixing bath for ordinary silver prints; at any rate, not until you have had more experience. 1 gr. of chloride of gold will tone a sheet of sensitized paper.—CARBONATE.

4990. Toning Prints.—In reply to "E. L. B." I fancy he had his fixing solution far too strong; it ought to have been 5 oz. of hypsulphite of soda to one pint of water. I here give you a formula for a very good toning bath from which I have had very satisfactory results, viz.: Purchase at any chemist's or any photographic material dealer's the following, viz.:

(A) 15 gr. chloride of gold (one tube).
(B) 1 oz. of acetate of soda.
(C) 1 dr. of bicarbonate of soda.
(D) .5 oz. of water (distilled water).

A costs 1s. 9d., B 3d., C 1d.; total, 2s. 1d. All the above must be correctly weighed (for solids) and measured with glass measures (for liquid)—no guess work. Obtain a 20 oz. coloured stoppered bottle, cost about 5d., clean it well and put the chemicals in, in the above order—the water last. When putting in the gold put in all the glass that remains of the tube, then put the bottle away for twenty-four hours, after which when you want to tone, if quarter-plate prints, take 1 oz. of this solution to 8 oz. of water; if half-plate, the same will do, but if you have a larger dish, which is preferred by a good many amateurs, say 10 by 8, take 2 oz. of the toning solution to 16 oz. of water; the same will follow for all sizes up to 10 by 8. No more than six prints should be put in the dish at one time in every case; this bath will tone twenty-four half-plate and quarter-plate in four lots, but if using a 10 by 8 dish for the half-plate, you may tone eight or ten at one time. The prints take twenty minutes to tone; this is on condition you well wash the prints in cold water before putting them in the toning bath; if you do not do this, you will find the prints will not be half toned in the twenty minutes, but will take one hour to do properly. After the prints are toned put them in a fixing bath, as follows: 5 oz. of hypsulphite of soda to 20 oz. (one pint) of water. The prints will require fifteen minutes to fix. This fixing bath may be used till it is discoloured. After the prints are fixed put them in a bath of running water for twenty-four hours, then take them out and mount before they dry. Always tone your prints in as dark a room as you like with the prints face downwards while toning and fixing, and always trim your prints before starting to tone. — CRE-DIRE.

4991. Negative, Touching Up.—In answer to "E. L. B.'s" query, I can give you a rough outline of the best way to touch up negatives. You will require a retouching medium, a retouching desk, one of Faber or Hardmuth's best pencils, No. 3 or 4, cut to as sharp a point as you can make one, some sand paper, No. 0, and a little turpentine. After preparing your negative with one of the retouching mediums, place it on your retouching desk and place a piece of paper (brown) over it with a hole in it, size about a halfpenny; expose the part to be retouched, the shade and lines are then softened by using one of your pencils; if the retouching is not satisfactory, it can be removed from the negative with a little turpentine. A soft colour, such as Prussian blue, will do for filling up pinholes, using a fine sable brush. Just rub the cake on a plate, then damp the sable brush with water, drawing it to a point, just touch the colour with the damp point and put it on the centre of the pinhole, taking good care not to touch the edge. Spotting a photograph is done in the same way—by using a good colour and gum. The

best way for you to get full particulars would be to buy No. 6 of the "Amateur Photographer's Library," "Art of Retouching," by H. Hubert, LACITE.

4991. Negative, Touching Up.—Don't attempt to retouch; it requires an experienced hand.—PEPO.

4992. Beginner wants Help.—If E. L. B. will send "PEPO" his address, and provided he does not live too far off, I will visit him and put him through his facings. The Editor has my address.—PEPO.

4992. Beginner wants Help.—You will find the following developer suit Thomas's plates very well (I am alluding to the extra-rapid plates, as I have not tried the landscape):

Pyrogallie acid	..	..	1 oz.
Citric acid	..	..	60 gr.
Sodium sulphite	..	..	24 oz.
Water	..	..	20 "

Liq. ammonia	..	..	1 oz.
Potassium bromide	..	..	120 gr.
Water	..	..	20 oz.

For instantaneous work take 1 dr. of each solution and add water to make it up to 1½ oz. (this is enough for a quarter-plate). For ordinary correctly-exposed negatives add 10 drops of the following solution:

Bromide of potash	..	..	50 gr.
Water	..	..	1 oz.

This is known as a 10 per cent. solution, that is, ten drops of the solution contains 1 gr. of bromide. The bromide acts as a restrainer, so you must vary the proportion according to the negative. After development, wash and put in a saturated solution of alum, then fix in:

Hypo-sulphite of soda	..	..	5 oz.
Water	..	..	1 pint.

If you work with more brands of plates than one, you had better make up the Thomas pyro-ammonia formula, which are 10 per cent. solutions, so that you can alter the developer to suit the plate. As regards the toning, see my answer to No. 5005; the formula given there is quite simple and one of the most satisfactory ones that I have tried. Use the hypo of the strength of about 3 oz. to the pint, and fix for ten minutes or a quarter of an hour. You will get much fuller instructions from any elementary book on photography than it is possible to give here. Get "Modern Photography for Amateurs," by Eaton Fearn, published by the proprietors of the *Bazaar*, Strand, price 1s. This little book gives lots of information on every subject, and is meant for a guide to those who know nothing about photography. It also contains a list of all the apparatus and chemicals required. When you get a little more advanced, get Burton's "Modern Photography" and other books, as you will learn more about photography by reading books than you will any other way.—CARBONATE.

4993. Pyro Developer.—I think "X. Y. Z." will find it is due to the citric acid in the developer. It can be prevented by using a little less of citric acid (1 or 2 gr.)—W. H. ELLIS.

4993. Pyro Developer.—I should say the stain on your negatives was green fog, not caused by citric acid, but by ammonia. Some plates are much more liable to it than others. If it interferes with printing, bleach the negatives in a solution of ferric chloride 10 per cent. strength. Redevelop with ferrous oxalate, refix, and wash.—PEN.

4993. Pyro Developer.—I have been using this developer for some time, but have never found anything wrong with it. Your chemicals must be impure. Anyhow, I should not think a blueish stain would interfere much with the printing. The citric acid is only used to neutralise the sulphite.—CARBONATE.

4995. Jervaulx Abbey.—Four plates would be sufficient for abbey itself, but take plenty. Surroundings are fine. Enter the grounds from east; within you simply sign visitors' register at Gardener Lodge. Visit Crakehall, Thornton Watlas, Patrick Brompton, Bedale, and try to see Sir F. Millbank's estate, Thorp Perrow—J. B. WIGGLESWORTH.

4995. Jervaulx Abbey.—You can photograph this where, how, and when you please. I should advise you to bring not less than four plates. The key is kept at the gardener's cottage close by. Don't get out at Jervaulx Station unless you want a five-mile tramp. Leyburn is as near, almost, and conveyances can be hired there of all kinds.—PEN.

4997. Enlarging Lantern Lamp.—In reply to "Italia," paraffin oil is a very bad oil to burn. For a good light, colza oil with one or two drops of paraffin is very good, and will give a good and steady light.—W. H. ELLIS.

4999. Speed of Shutter.—A 1¼ in. Thornton-Pickard will give one-ninetieth of a second, a 2 in. one-eighth and so on.—PEN.

4999. Speed of Shutter.—I believe about 1/100 sec., but you can easily find out from the manufacturers.—CARBONATE.

5000. Pinholes in Negatives.—Do you keep your pyro in its dry state? If you do, probably, in mixing, particles fly about your dark-room, and when you take your plate out of the dark-slide they settle on it, and cause the transparent spots.—PEPO.

5000. Pinholes in Negatives.—If the spots are large and irregular it is possible that the plates may be from a defective batch. If the spots are perfectly circular and are transparent, they are probably owing to air bubbles. It is often very difficult to prevent these, but

I cannot think how it is that two dozen plates all have the same fault.—CARBONATE.

5000. Pinholes in Negatives.—Do you mean by "spots" black spots or pinholes of bare glass? The first are caused by damp, or some fault in the manufacture; the second by dust, bubbles in the developer, dirt, etc. Dust before and after exposure, also dust the slides out. I know of no remedy for opaque spots, which sometimes run through a whole batch of plates.—PEN.

5001. Printing Processes.—If this reader does not want much trouble in the way of manipulation he could not be working hard by simply putting the prints in a fixing bath after printing; this is all that is required when using the self-toned paper.—W. H. ELLIS.

5001. Printing Processes.—Alpha is about the only general process besides silver, that will give the full range of tones. This paper, however, has to be toned as well as developed, as the development only brings it to a brick-red colour, such as a silver print appears before toning. Bromide and Kallitpe only produce a black tone and no other, and, therefore, are only suited to a certain class of negatives. The other processes are ordinary matt-surface and Aristotype paper, which are manipulated in exactly the same way as ordinary silver paper, ferro-prussiate, and print-out platinum, which simply require washing in water.—CARBONATE.

5001. Printing Processes.—Have you tried the gelatino-chloride papers, or bromide? You can print by the latter process all the year round, wet or fine.—PEN.

5002. Copying.—The reason you "get nothing but fuzziness" when approaching near your subject is because your camera will not rack out far enough to focus properly. When copying same size the rule is that the distance the camera must rack out is twice the focal length of the lens, and the lens is the same distance from the object copied. It is obvious you must use a shorter focus lens.—PEN.

5003. Self-Toned Paper.—In answer to "Bad Toner's" query, there is nothing wrong with this paper. It is used a great deal both by amateurs and professionals. It is a very good paper, saving a good lot of time in manipulation.—W. H. ELLIS.

5003. Self-Toned Paper.—This is a good paper in its way, and gives results which will compare with ordinary toned and fixed prints.—PEPO.

5003. Self-Toned Paper, Rivot's. My experience of this paper is that it works admirably if the instructions sent out with it are strictly adhered to. It does not, of course, profess to afford a variety of tones, in the ordinary acceptance of the phrase, but the tone, undoubtedly, does vary considerably, according to the quality of the negative.—GOOD TONER.

5004. Varnishing Negatives.—There is no fault to be found with the way of varnishing negative as you mention. It is the way varnished fingers handle the negative while varnishing. It can be done with a brush but the result will not be so good.—W. H. ELLIS.

5004. Varnishing Negatives.—If you value your negatives, certainly varnish them. I think you will not get any better way.—PEPO.

5004. Varnishing Negatives.—Unless you want to take a large number of prints from a negative there is no necessity to varnish. Of course, if you have the knack of doing it, and do not cover your negatives with long streaks of varnish and pour the rest of the bottle on to the table, by all means varnish them. It requires much practice and the sacrifice of many negatives to be able to varnish a negative evenly by pouring on the plate. Messrs Mawson and Swan, 33, Soho Square, sell a varnish which can be applied cold with a camel's-hair brush. I have tried this, but find it rather risky, as the varnish often comes out in streaks.—CARBONATE.

5005. Toning.—In reply to "No Chemist," he has fairly muddled the query. A little better explained query will, I think, be answered readily. He has put a good *nom-de-plume* at end of query.—W. H. ELLIS.

5005. Toning.—I certainly do not believe that the formula you give has the slightest advantage over the ordinary borax. It is much more troublesome to make up. Make up a solution of borax (2 dr. to the pint) with hot water; this can be made up in any quantity, as borax itself is perfectly stable when not mixed with any other chemical. For use, take 10 oz. of the solution and add from 1 to 2 gr. chloride of gold. You must keep the borax and gold solutions separate and mix only as required, and then throw the solution away after toning, as it will not keep. You will find this formula easy to make up and act as well as any bath.—CARBONATE.

5006. Fixing.—I cannot imagine how this can be. There can only be two possible causes—either you have not got hypo at all or else your bath has become weak with use. Make up your fixing bath fairly strong, about 5 or 6 oz. to the pint, and leave the plates in it for five minutes. Do not keep it too long, not more than a fortnight; it begins to get weak after fixing two or three batches of plates. It costs very little, so use it as fresh as possible.—CARBONATE.

5006. Fixing.—In reply to "Revilo," there does not seem to be anything which will fit your query. I fancy the fixing was very weak instead of strong.—W. H. ELLIS.

5006. **Fixing.**—I can only suggest (not having used the Barnett plate) that your negatives were really fixed before you thought so, and that a kind of white filmy look made you imagine them not finished. I have been deceived sometimes by this latter.—PEN.

5008. Snap-Shot Developer.—

Pyro	1 oz.
Citric acid	60 gr.
Soda sulphite	24 oz.
Water, to make	20 „

(2)

Ammonia .SSO	1 oz.
Amn. bromide	80 gr.
Water, to make	20 oz.

Use 1 oz. of No. 1 and 1 oz. of No. 2, and about 3 or 4 oz. of water.—PEPO.

5008. **Snap-Shot Developer.**—A plain hydroquinone developer will suit plates which have been used instantaneously.—W. H. ELLIS

5009. **Photographing Oil Painting.**—I think "Good Old Walsall" will not succeed in taking a photograph of his oil painting if it is to be kept under the glass. I have taken photographs of a good few pictures, but not under glass. It requires patience to focus them, and unless you get it in good focus you will have a bad result. I use Barnett plates, Lockyer's hydroquinone developer; I exposed my plates at 3 p.m., stop f/16, good light against window, one minute to three minutes, with very good results.—W. H. ELLIS.

5010. **Ghost Negative.**—You might produce the effect by printing from the wrong side of the negative.—PEPO.

5010. **Ghost Negative.**—"Old Un" will find by capping his lens after giving a rather short exposure, then placing his ghost in front or at the side of object photographed (which should still remain) and again uncapping and recapping quickly, a transparent ghost-like figure will be obtained; or he can place his ghost in position first and give very short exposure, remove ghost, and finish exposure.—VIEWFINDER.

5011. **Damaged Negatives.**—I once laid a negative in contact with a letter written in copying ink pencil, and found that all the pencil marks had been transferred on to the film side of the negative, and I could not get them off. I should think printer's ink was equally impossible to remove. The only remedy is not to wrap your plates in newspaper but to use some paper which can have no chemical action on the film. Such paper can be procured from Messrs. George Wheeler and Co., 46, King Street West, Manchester.—CARBONATE.

5011. **Damaged Negatives.**—I am sorry to inform "Beginner" that unless he can get the letters off the negative with a little turpentine he will not be able to do anything whatever with it.—W. H. ELLIS.

5011. **Damaged Negatives.**—The fatty nature of the ink acted upon the plates, and made that portion of them insensible to the developer. There is no remedy.—PEN.

EDITORIAL.

SPECIAL NOTICE.—We are very pleased to find that replies in this column are so much appreciated, but we should be very grateful if those requiring advice would send their letters to us BEFORE TUESDAY MORNING'S post if possible. The time occupied in replying in this column is very considerable, and owing to the often late receipt of letters, many matters have to be left over each week. This we much regret.—ED: AM: PHOT:

F. W. WALTER.—(1) You can obtain the chloride of gold and sodium from Thorns and Co., 62, Chesham Road, Clapham, or C. E. Elliott, 36, Jewin Street, E.C. (2) They are not the same people, though they may be in touch with one another.

H. E. ILLINGWORTH.—Add a few drops of tincture of iodine to some water, and paint on the spots; then apply a weak solution of cyanide of potash, and wash well.

F. W. SHAW.—Much obliged for information. We write you by post.

A. RUSSELL.—Each sheet of paper absorbs about 32 gr. of nitrate of silver, therefore after every twelve or fourteen cabinet pieces you must add that quantity of silver.

CARTE.—Break the tube of gold into 15 dr. of water, add a good-sized pinch of chalk, shake well, and use. The gold must always be neutralised. Use your present formula and keep for some hours before use. It will keep a long time, and only wants the addition of gold.

W. R. SUTHERLAND.—(1) We cannot make out anything of the failure in this case. (2) Send us up one or two prints or negatives showing the fault you complain of.

A. J. GARWOOD.—(9) Fair; a good bromide print ought to beat this, however. (10) Fair. (10a) Good. (11) Fair; just a shade more sparkle wanted. Try matt-chloride paper. (11) Far too black. Try Chapman's developer for your paper, and you will get less sooty results. (12 and 13) Under-exposed; coat all the lower part of negatives with yellow matt-varnish. Your bromides are too black by half. The three views would do for half-plate and under landscape; or river scenery classes.

J. H. OLIVER.—(1) Had your figure been fishing, this would have been good. (2) Good. (3) A charming little study. (4) You make one long to see a little more on the left of this, which just misses being a picture. (5) Good. (6) Slightly flat, and wanting in sunlight. Your technical skill is good, and, if on matt-paper, your prints would be far more pleasing.

JEMIMA.—Thank you for your novitiate suggestion, which we shall hope to adopt. With regard to the second, if you read the head of our exchange column you will see that we do what you suggest. Can you give us some suggestions as to beginners' difficulties, and we will try and elucidate?

ALMA.—Letter, with prints, by post.

W. A. SOUTHWELL.—Next week, we hope.

GEO. B. COOKE.—We know nothing of the firm, but understand that delay has frequently occurred in the execution of orders.

H. DE B. DALY (Italy).—The suggestions you make are admirable, but, from an experience of many years, we know that the average amateur photographer would rather get three or four replies to his question, however elementary it may be, from readers of the AMATEUR PHOTOGRAPHER than hunt up the most perfect and useful book ever published. We give a note in another column as to the library, which you think is sufficient for an average worker.

MISS RAWSON.—We thank you for the very complimentary terms in which you speak of our work for the amateur. Bamborough would be well suited for the "Holidays with the Camera" competition.

FRENCHMAN.—The camera you name may be a good one, but we have not seen it. The "Presto" is very good value for the money.

BECHER.—There is no lamp in the market to beat the "Perfection" or "Holiday," sold by most dealers and by the makers, Messrs. Benham and Froud. See advertisement.

W. J. D. WALKER.—We regret being unable to send you any of the plates; they do no longer exist. Letter with enclosure subsequently received with thanks.

H. W. BLUNDELL.—Dr. Gustave le Bon has published a work in two vols. called "Les Levers Photographiques et la Photographie en Voyage." The first vol. is "Application de la Photographie à l'Etude Géométrique des Monuments et à la Topographie;" the second vol., "Opérations Complémentaires des Levers Photographiques." The price of the two is 5 fr., or each vol. 2 fr. 75 c. Our publishers would obtain for you. Pollack, of Vienna, has also written a brochure, entitled "Über Photographische Messkunst, Photogrammetrie und Photographie," price about 1s.; and Dr. C. Koppe has also published "Die Photogrammetrie oder Bildmesskunst," price 6s. Our publishers will obtain any of these for you, and we can manage to help you in the reading of the same if you do not read German. Several articles have also appeared in "Photographische Rundschau," and several articles in "Eder's Jahrbuch," and also Prof. Steiner has just published a "Lehrbuch der Photogrammetrie." There is also an American work by Reid on "Surveying by the Aid of Photography."

TE WINKIND.—We fail now to locate the cause of your stains. We will, if you like, tone some prints for you, if you send some with your bath. You might try washing each print before toning, changing the water very quickly at first.

R. V. HARCOURT.—With careful printing you ought to obtain results equal to competition, as the one sent is up to standard. We were under the impression it was Dorchester on the Thames, hence our remark. Always pleased to help you.

B. N. W.—We are unable to state positively the fault, but presume it is due to imperfect fixation or the use of an alum bath. Send up the negative if you want more light on the subject.

T. C. HOWARD.—The blank space at the bottom is either due to your including a bit of the base board or else not pulling the slide right out. We note the presence of a flare in the picture; you had better return lens to the maker or else get rid of it.

P. E. IRUELL.—The stains certainly give one the impression of hypo or pyro, or they might even be caused by the prints coming in contact with metal.

A. W. DOBBIE (South Australia).—We cannot find any formula on p. 70 of this year's issue, but we can answer your question. Sulpho-pyrogallol is well known in England, and we are surprised at any dealer on your side not knowing anything of it, as it was proposed by the late Mr. Berkeley, many years ago, and is a standard formula:—

Pyro	1 oz.
Sodium sulphite	4 „
Citric acid	30 grs.
Distilled water to	9 oz.

Dissolve the sodium in the water, add the citric acid, and pour on the pyro. The probable cause of your failure lies in your negatives not being absolutely free from hypo; this is a *sine qua non* for silver intensification.

JOHN DANELL.—Many thanks; your suggestion is a good one but very difficult to carry out. Several years ago we made an attempt, but fear they must rank side by side with things half done. Still, we will think over your proposals.

G. W. SWINNERTON.—Your very beautiful photograph and negative safely to hand. We shall refer to them in an early issue and, if possible, reproduce the same.

K. P.—Come and see us any Monday afternoon between two and five, and we shall be able to help you out of all your difficulties. Certainly make up developers and toning solution, but if you want a thoroughly reliable made-up developer, use "sulphokinone," sold by Fry and Co., 5, Chandos Street, W.C.

WALTER DE H. BIRCH.—Thank you very much. We should like to blame some one, but fear the fault is our own entirely.

W. G. LUMDY.—We are quite unable to help you. It would be best for you to write to the editors of either the *British Journal of Photography* or the *Photographic News*. We have no influence with professional photographers.

REV. CHAS. GARZ.—The thing is a toy, and for the money you could hardly expect anything else. Frank's "Presto" at 10s. 6d. is capable of doing very good work.

LLANDUDNO VISITOR.—We are very pleased to find that the articles on "North Wales" were so useful to you.

H. HOLT.—Thanks for your letter and your explanation.

A. N. JAMESON.—Will you please let us know whether your exhibition is open to all comers. We will notice it next week.

J. B. W.—(1) The tone is just right. (2) The paper suits the class of work, though bromide would also possibly improve it. (3) Had you made your figures do anything else but stare at the camera you might have won a prize with this. (4) The last point we mention is the only thing that stands in the way of its taking a very high position.

ESIW.—No. 2 is up to competition standard but would not lose by being cut down. No. 1 is flat and wants the branches on the left-hand of picture cut off.

Monthly Competition.

No. 28.—ENLARGEMENTS.

Title of Photograph.	By whom sent.
After Many Storms	G. E. Yarden
Bolney Ponds	R. C. Macleod
Entrance to Weston Park	W. Mangham
At the Gate	James Stein
"Clearly the River Chimes in its Flowing"	A. C. Batty?
The Brook, Margaretting	A. J. Golding
South Devon Hounds	L. W. Tindal
Sunshine	T. Davis
Curracloe Sandhills	T. W. Draper
Milton's Cottage, Chalfont St. Giles, Bucks	W. R. Weir
At Work	R. W. Branthwaite

Sale and Exchange.

RULES.

CHARGE.—Twelve words or less for Fourpence.

Every additional three words, one penny. The name and address of the sender must be paid for. (A single figure, or group of figures undivided by letter, space, stop, or words, counts as one word; compound words count as two words.)

DEPOSITS.—The money for goods forwarded on approval may be deposited with the Publishers of the AMATEUR PHOTOGRAPHER, who will hold the amounts deposited until they are satisfied that the transaction has been completed to the satisfaction of buyer and seller.

COMMISSION.—A charge of 2½ per cent. will be deducted from all deposits whether a sale is effected or not. Minimum charge 1s.

PAYMENT.—All payments are to be by cheques or Postal Orders, made payable to Hazell, Wat-on, and Viney, Ltd., 1, Creed Lane, London, E.C.

REPORTING.—Apparatus may be sent to the Editor, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C., who will report upon the apparatus to the buyer for a minimum fee of 2s. 6d., or a commission of 2½ per cent., upon the sale price of the apparatus.

CARRIAGE must be paid on all apparatus sent for report, and they will be returned carriage forward.

ADVERTISEMENTS can be inserted under a number, the name and address being registered, and letters forwarded for a fee of 3d. to cover postage.

ADDRESS.—All advertisements (which can be received up to Wednesday morning, 9.0 a.m.) and other communications having reference to the "Sale and Exchange" column, must be addressed "Sale and Exchange, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C."

PAYMENTS should be made in Postal Orders or Postage Stamps.

Bicycles, etc.—Universal Rover safety, solid tyres, balls everywhere except pedals, new last autumn, cost £12, with large size King of the Road lamp, £7, a bargain, selling on account of going abroad; Lancaster's best brass cycle clip, nearly new, 3s. 6d., cost 7s. 6d.; Reingebach, Langham Hotel, London.

Cameras, etc.—Will exchange 5 by 4 camera, three metal slides, and Lancaster's quarter-plate changing box and slide, holds 12 plates, for good cabinet portrait

✻ OUR VIEWS. ✻

"To hold as 'twere the mirror up to nature."—*Shakespeare.*

OUR VIEWS.—Hackney Photographic Exhibition—The Amsterdam Photographic Exhibition; photographs wanted from England—"Photography at Home" Competition; awards to be made—Photographs for Pall Mall—Photography and Musical Scores—The 1891 Lantern Slides; Public Exhibition of them at Pall Mall.

LEADER.—Beginners' Difficulties.

ILLUSTRATIONS.—An Old English Village (by John Carpenter)—Examples: Rembrandt, Vandyck, and Metz—Clovelly (by John A. Hodges)—The Thames: Oxford, Windsor, and Eton (by E. J. Wall).

LETTERS.—The Brush as an Aid to Photography (Curioso)—A False Actinometric Theory (Alfred Watkins)—Cheap and Portable Dark-Room (L. Moonen)—Autotype Printing (D.)—Pirating Apparatus (W. Watson and Sons)—Help the Poor Professional (A Reader, etc.)

ARTICLES.—Photography at the Seaside—Photographic Procedure (E. J. Wall)—Composition and Light and Shade (Robinson), illustrated—Through North Devon and Somerset (John A. Hodges), illustrated—From Oxford to Kingston, illustrated—How I Started a Successful Society (by A Provincial)—A New Process of Photo-Zincography (by A. and L. Lumiere).

EXHIBITIONS.—Glasgow; Third Notice.

REVIEWS.—"One Hundred Photographic Formulae"—"Die Amateur Photographie"—"Materia Photographica"—"Military Photography."

SOCIETIES' MEETINGS.—Belfast—Birkenhead—Bournemouth—Brechin—Brixton and Clapham—Croydon—Hackney—Halifax—Holborn—Ipswich—Kendal—Liverpool—North Middlesex—Omega—Peterborough—Putney—South London—Stockton.

EDITORIAL DEPARTMENT.—All Literary Contributions, Queries and Answers, Photographs for Competition or Criticism, Books or apparatus for Notice or Review are to be addressed to the EDITOR, AMATEUR PHOTOGRAPHER, 1, CREED LANE, LUDGATE HILL, LONDON, E.C. (*All Communications should reach the Editor on Tuesday.*)

TRADE ADVERTISEMENTS are received up to Tuesday morning.

TERMS OF SUBSCRIPTION.—

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PUBLISHING DEPARTMENT.—All letters containing Subscriptions, Orders, Remittances, SALE AND EXCHANGE Advertisements, or other business matters for the AMATEUR PHOTOGRAPHER are to be addressed to the Publishers, HAZELL, WATSON, AND VINEY, LD., 1, CREED LANE, LUDGATE HILL, LONDON, E.C. (SALE AND EXCHANGE Advertisements, at the charge of Three Words for One Penny, can be received as late as WEDNESDAY MORNING.)

"Amateur Photographer" Monthly Lantern Slide Competition (Fifth).—"LANDSCAPE, SEASCAPE, AND RIVER SCENERY." Last day, SEPTEMBER 24TH. Two Slides to be sent in. Entry Forms, etc., on receipt of stamped envelope. Address: Editor, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C.

"Amateur Photographer" 1891 Lantern Slide Competition (Fourth Year).—Prizes: Gold, Silver, and Bronze Medals, and Certificates in each class. Competitors to enter only *one* class; every competitor to contribute *ten* slides, and a "lantern slide portrait" of him or her self.

CLASS I.—Landscape, Sea Pieces, and River Scenery, with or without figures.
CLASS II.—Portraiture and Figure Studies, to include in-door or out-door pictures.
CLASS III.—Architecture, Interior or Exterior.
CLASS IV.—The Fine Arts, which may include copies of Pictures, Engravings, Sculpture, Art Metal Work, China, Etc-a-Brac, etc.
NOTE.—Every Competitor must send descriptive Notes.
 Past prize-winners will be awarded "Niepce" or progressive medals, *should they win a medal of the same value as that which they have been awarded in past Lantern Slide Competitions.*
 All slides must be received on or before the 30th September, 1891.
RULES, CONDITIONS, AND ENTRY FORMS will be forwarded on receipt of stamped addressed envelope. The application should be endorsed, "LANTERN SLIDE COMPETITION," Editor, AMATEUR PHOTOGRAPHER, 1, Creed Lane, E.C."

"Amateur Photographer" Monthly Competition No. 29.—Prizes: Silver and Bronze Medals, with Ribbon and Clasp—"HARVESTING." Last day, OCTOBER 1ST. One print only to be sent in. Entry forms, etc., on receipt of stamped envelope. Address: Editor, AMATEUR PHOTOGRAPHER, 1, Creed Lane, E.C.

Members of the Editing Staff are "At Home" on Monday afternoons from Two till Five o'clock, and they will gladly give advice upon all photographic matters.

SIR GEORGE GROVE, the Director of the Royal College of Music, made out a strong case for the photography of musical scores, in Tuesday's *Times*. Sir George, whose "Dictionary of Music" has won for him world-wide fame in musical circles, is entitled to speak "as one having authority." Having just examined the autographs of the fourth, fifth, and seventh of Beethoven's Symphonies, Sir G. Grove says that "the published editions of such works, even the most careful, necessarily leave one but imperfectly informed of the real contents of the autographs. . . . The very way in which the notes are put down in the bar in Beethoven's careful and shapely writing, the curious iteration of the marks of expression, and many similar things impress one, sentiment entirely apart, as nothing does in other musical autographs." This prelude brings Sir Georg Grove to the inquiry, "Why should not we all have these manuscripts virtually in our own hands at our full disposal? Photography will give us the boon, and why should it not be employed?" Of course, a satisfactory commencement in this direction was made when the Sacred Harmonic Society photographed the score of "The Messiah." The firm of Breitkopf and Hartel, of Leipzig, has been enterprising in the photography of the original scores of Bach, Schubert, Mozart, and other great composers. Why should not Sir George Grove's suggestion as to the photography of a dozen of Beethoven's great works be followed? As he remarks, "photographic copies would be infallibly correct."

WE understand that Captain W. de W. Abney, F.R.S., C.B., R.E., has consented to distribute the prizes in connection with the Hackney Photographic Exhibition on the 22nd of October.

THE Amsterdam Photographic Exhibition opens on the 1st of October. The Committee are very anxious to have as many photographs as possible from Great Britain, and Mr. Chr. J. Schuwer, Secretary of the Exhibition Committee, P.C. Hoofstraat 72, Amsterdam, asks us to draw the attention of our readers to the matter. There is no charge for wall space, and frames may be sent up to Monday or Tuesday in next week, addressed to Mr. P. J. Adrian, jun., shipping agent, Amsterdam. If despatched *via* Harwich per G.E.R., they will reach Amsterdam on the morning of

the next day. We understand that much interest is taken in photography in all the larger towns of Holland, and those who practise the art are most anxious to see representative English work.

At last we are able to announce that the photographs contributed to our "Photography at Home" Competition, will be judged this week, the awards being published in our next issue. The gentlemen who have kindly consented to act as judges are Messrs. George Davison, Alfred Maskell, and Philip H. Newman. We shall probably arrange for the prize pictures to be exhibited at Amsterdam, as by this means the Dutch brothers of the camera will be able to form an idea of the very admirable work done by amateur photographers in this country.

It is not often that we hear much about the photographs intended to be shown at the Pall Mall Exhibition. The *Newcastle Daily Journal* thus writes of the photographs which Mr. Lyd. Sawyer is sending:—

"They are all figure studies, produced under an artificial light, principally an oil lamp or a candle. Whilst they all vary in regard to the construction of the subject, the points which Mr. Sawyer has striven to bring out in each of them are practically the same. His efforts appear to have been singularly successful, and mark a further progressive step in his career. Under an artificial light he has produced most striking effects in light and shade on his subjects; indeed he seems to have surmounted many of the difficulties in this particular work, which prove such a stumblingblock to others. The pictures all possess a beautiful tone, whilst their exceeding softness and artistic finish are most creditable to the artist. As a collection they cannot fail to be conspicuous in the exhibition. One of the prettiest of the collection is 'The Last Rehearsal,' which depicts most truthfully two young ladies at the piano rehearsing, presumably, a duet, prior, it is to be supposed, to their appearance in public. Mr. Sawyer has caught the facial expressions of his subjects in a particularly happy manner, and the modulations of light upon their faces form a distinctive feature of this study, as in all the others. In 'Reflections,' which to our mind ranks as one of the best in the collection, the artist delineates a charming girl looking into a mirror and reflecting apparently upon matters of a sentimental nature. The light and shade of this study, with only a lamp to help the artist, really form a remarkable specimen of Mr. Sawyer's work. A subject which will doubtless be considered both interesting and attractive is 'Lighten our Darkness, O Lord.' This is a study which shows much character, and displays to a degree the ingenuity, as well as the taste, of the artist. The picture shows an aged man, totally blind, reading the Bible before an old ship lamp in the public street. In the expression and pose of the study every detail has been carefully worked out, and the artist is deserving of praise for the aptness of the title he has chosen for the picture. 'Nap,' which illustrates two young men playing cards, and depicts their determined and studied features at a critical stage, when 'everything' depends upon the playing of the next card, and also 'The Toper,' suggesting an old man far gone in his cups, are both splendid works, each of which is well developed and capably shaded, the former being of uncommon merit. The two remaining pictures which compose the collection are 'A Disciple of Diana' and 'Vanity,' the latter being a portrait of a negro admiring himself before a mirror, whilst he is putting on various adornments."

We would remind competitors that all entries for the AMATEUR PHOTOGRAPHER 1891 Lantern Slide Competition must be received on or before Wednesday, the 30th instant. It will considerably assist us if competitors would send their slides in before the last day, if possible. The awards will be published in the AMATEUR PHOTOGRAPHER of the 9th of October, the judging being done on the 5th. We hope that the following well-known workers with the lantern and in photography will be able to act as jurors:—Mr. Valentine Blanchard, Mr. F. M. Good, Mr. Frank Howard, and Mr. Charles Hussey.

The first public exhibition of the 1891 Prize Slides will be on Saturday evening, the 17th of October, upon which date the Council of the Photographic Society of Great Britain

have graciously consented to their being shown at the galleries in Pall Mall. Mr. Charles W. Hastings will personally describe the slides, and give other brief particulars. Every prize winner will be sent two tickets for the exhibition.

A CORRESPONDENT, writing in reference to our leader last week, states that her first experience of rain spots occurred about a week ago. "It happened then that I had a negative from which I was in a great hurry to get a print. I placed it close to an open window; it was almost dry, when a heavy shower came on, and on looking at my plate I found it sprinkled all over with small rain drops. I did not think it would affect it at all, so merely placed the negative on the mantelpiece till it should thoroughly dry, but on looking at it then I found every rain spot was still clearly visible. I took a hasty print off, then put the negative into water, and let it soak for about twenty-four hours, then washed it with a soft sponge, and found, I am glad to say, that all traces of rain had disappeared." Our correspondent sends us two prints, one showing the rain spot marks, the other absolutely free from the same, thus proving the efficacy of her treatment.

THE Committee of the Camera Club are going to still further show their enterprise, and desire to make the Club more useful by starting a series of elementary lectures and demonstrations. These are especially for the encouragement of beginners and those desirous of acquiring a practical knowledge of photographic methods and processes. The exact date is not, we believe, yet fixed, but due notice will be given in the *Camera Club Journal*. We feel sure that such work on the part of members of the Committee and others will be greatly appreciated, and the knowledge that in joining the Camera Club a member can go in for what will be practically a course of lectures, attendance at which will enable the student to make himself proficient in the art and science of photography, will induce many to join the Club and increase its popularity very materially.

We have recently made a point of taking provincial amateur photographers to the Club, and nothing can surpass their admiration at the completeness of the Club-house and the extensive work undertaken and performed so efficiently by the executive.

Messrs. Archer and Sons, 43 to 49, Lord Street, Liverpool, send us their new catalogue of photographic apparatus. Two special lines in cameras are the "Popular" half-plate, £4 10s., and the "Liver" half-plate, £6 15s., both very good value. The latter is a thoroughly well-made piece of apparatus, and will hold its own in finish and style with the best made London cameras. Messrs. Archer have turned their attention to stereoscopic cameras, and put on the market a good camera for stereoscopic work, the "Stereo-graph." They have also a simply made stereoscopic and quarter-plate hand-camera combined, sold complete with one dozen plates for £3 15s. Lenses of special make for all purposes can be had of the firm, and every requisite for working in photography. Messrs. Archer and Sons have a very special reputation for lanterns, and we cannot refrain from calling attention to the "Ideal," a first-class single lantern; the feature of the lantern is the bellows body between the condenser and the objective. The makers say of it: "Equally suitable for the drawing room, schoolroom, or largest lecture hall, as well as microscopic, scientific, and experimental work; also for photographic enlarging. This lantern is of novel design, and the most perfect single lantern in the market. A rack running the whole length of the lantern works interchangeable lenses for showing at all distances from the screen. The above lantern with new dissolver for single lanterns, is simply perfection. The new dissolver for single lanterns will answer for any lantern with open top above slide-holder." Having seen and worked the lantern, we cannot speak too highly of its adaptability for all optical projection work, and we strongly advise intending purchasers to write for prices, etc.

BEGINNERS' DIFFICULTIES.

THE first difficulty the beginner meets with is the determination of the necessary duration of exposure. There are upon the market exposure books, meters, and sundry apparatus which have the purpose of giving assistance in this respect.

Many old hands sneer at those who use exposure books or meters, and affirm that the only true guide to correct exposure is the appearance of the image on the screen. Now it always seems to us ridiculous to tell a beginner that he should judge of the requisite exposure from the appearance

state of the light and time of day, rules for which will be found in most books. There are, we suppose, no exposure books placed on the market which have not been carefully compiled by the author from his own experiences and from the well-known charts of the variation of the actinic brightness of the light during the year, therefore some reliance may be placed upon such guides, and they are undoubtedly superior to the unaided judgment of the beginner.

In the exposure meters it is usual to judge of the exposure required by the aid of the extinction of the optical rays by certain substances, such as increasing thick-

"AMATEUR PHOTOGRAPHER" COMPETITION PICTURES.



AN OLD ENGLISH VILLAGE.

BY JOHN CARPENTER.

Cheddington

of the image on the screen, when actually he has had no experience, and, secondly, the appearance of the image on the screen is actually viewed by the eye by means of the optically bright rays of the spectrum, and there is no law which will hold good for any constant ratio between visual and chemical brightness. Granted then that the above statement is right, how is the beginner to estimate the correct exposure? By trial, perhaps someone will say; but even then our beginner has not the slightest idea of what is not a correctly exposed negative when he sees one, and moreover has not, we will presume, the requisite knowledge of the art of development to ensure his negative being correctly developed even when correctly exposed.

Our advice to the beginner then is to obtain some book on exposure, or else some exposure tables, and adhere to the exposures there laid down, only modifying them by the

nesses of tissue paper, etc., but the objection to such instruments is that there is again no ratio between the optical and visual brightness, and such meters are totally unreliable under certain conditions, especially towards evening or sunset, when the visual rays are brilliant, but the chemical rays rather poor. Other meters depend upon the colouration of a silver paper, either chloride or bromide; this is obviously an improvement upon the visual methods, but even this is open to cavil, especially in the case of paper impregnated with silver chloride, as the spectrum does not act in entirely the same way on bromide or bromo-iodide as on chloride of silver. Bromide paper is obviously the correct means to estimate the actinic of the light, but here again the hypercritical may find fault in that the connection between colouration and the formation of the invisible image is not constant.

After these preliminary considerations have been perused our beginner is in as big a fog as ever; he has gathered that there is no correct guide to exposure, and anxiously worries himself as to what he is to do. Our advice to him would be plain and straightforward. Fix upon one method of determining the exposure, disregarding for the time being all the theoretical considerations we have enumerated; fix also upon one brand of dry plates of ordinary rapidity; and adhere to these two points as sheet anchors.

Then our next point is development. Let the beginner fix upon some developer, which, in our opinion, had better be pyro, with the fixed alkalis, soda and potash, as accelerators; ammonia we know to be generally recommended by plate-makers, but the fixed alkalis are far easier to work in a tyro's hands, there is less chance of fog, and development is more under control; and, no matter what his subject or his exposure, let him adhere to one definite proportion of the two solutions. Let him disregard entirely for a short time the effects of over or under exposure, and adhere to the above conditions—viz., (1) one particular exposure book or meter; (2) one particular brand of plate; (3) one particular strength of developer—till he has obtained one or two dozen negatives of some kind or another; these should then be sent to us or submitted to some more experienced hand for criticism, and a written criticism upon each negative obtained, which should be carefully compared with the negative and the conditions under which it was obtained, which conditions should be carefully noted down at the time of exposure.

Working in this way, a beginner may from twenty-four negatives obtain a vast amount of information which is indelibly fixed upon his memory and which forms the groundwork of that experience which older hands talk so much about. Experience is not the obtaining of hundreds or thousands of negatives, but of shelving in the memory the particulars of each subject, its character, lighting, etc., and the exposure and the result obtained on development.

In our next note we shall treat of under and over exposure, under and over development, and the general results of modifying the proportions of the developer constituents.

Letters to the Editor.

THE BRUSH AS AN AID TO PHOTOGRAPHY.

SIR,—The writer of the short article under the above heading in your issue of Sept. 4th mentions the improvements which can be effected in prints and negatives as though it were the easiest thing in the world to wash in a shade here and tone down a high light or so. I am a self-taught amateur, with a little knowledge of drawing and colouring, and I am thirsty for more information. First I would ask if the writer of the article can tone down his high lights on the negative itself. If he cannot do this—and, as far as my experience goes, I have never heard of such a thing, except by local reduction, a very ticklish operation—he means to say he can wash a tint of colour over the high light of a silver print, which shall so exactly match the colour of the photograph and at the same time be so evenly applied that it is not noticeable? I am not questioning the fact that photographs

may be tinted in water-colours or painted over in oils. I agree with Dr. Emerson's opinion of such work. But I hold that it is quite legitimate to improve a photograph, if it can be done in such a manner as not to proclaim itself a faked-up article. With skill such results can be obtained in bromide or platinotype prints, but I have never seen a silver print successfully improved by brush work.

Now, with regard to improving the negative, if your writer would kindly make public how he uses a brush in working on the film itself, what colours he employs, and what preparation he gives the film to prevent the moisture from swelling the gelatine, I am sure he would benefit many besides, yours faithfully,
CURIOSO.

* * * *

A FALSE ACTINOMETRIC THEORY.

SIR,—In reply to "Osiris," my condemnation in my last letter (page 158) does apply to an actinometer test omitting the screen, the actinometer taking the place of the screen and all light, except that passing through the diaphragm, being shut out.

Perhaps I can make my point clearer by putting it in a different way to what I did last time.

The theory (testing the actinic of the image thrown on the screen or plate) which I condemn as false, attempts to combine in one observation the result of three distinct influences, viz., (1) the illumination of the subject photographed, (2) the colour value or photographic value of the subject, (3) the size of the diaphragm used.

The theory presumes that (other things being equal) an exposure will vary in the same proportion as the reflecting power (for actinic light) of the subject, and it is this presumption which is false.

I have to-day carefully tested the comparative reflecting capacity of a white linen towel, and a closely-cropped yew hedge, the subjects fairly representing the extremes usually met with. My method was to fix the actinometer (my own pattern) in the same plane the focussing screen of the camera usually occupies, to rack out the camera full length, and to admit the light reflected from the subject to be tested through the aperture usually occupied by the lens. The white object took 5 minutes to darken the actinometer to the standard tint, and the dark-green one 130 minutes to do the same thing under similar circumstances. The white test was taken before and after the other test, and the average is given.

Now this shows a ratio between the reflecting capacity of the two subjects of 1 to 26, and every photographer will know that the difference in the proper exposure for the two subjects is not nearly so great; my experience puts it at about 1 to 6 or 1 to 8.

Replying to "Osiris's" second question, whether I did not neglect the influence of subject colour, I made no attempt in my last letter to expound a full scheme for calculating exposures, but confined myself to the question "where to test the light." Most certainly the actinometer test is only part of the problem, and in the system I have worked out, the colour of the subject, the sensitiveness of the plate, and the diaphragm used in the lens have all to be considered, only they are made the subject of separate observation, and not mixed up with the entirely separate question of the illumination of the subject.

I should be glad to send "Osiris" or any other enquirer my leaflet, "The Elements of Photographic Exposure," which enters more fully into the question than I can in a letter.

Hereford, September 12th, 1891.

ALFRED WATKINS.

* * * *

A CHEAP AND PORTABLE DARK-ROOM.

SIR,—An easily rigged-up contrivance, which will answer all purposes, whether for temporary, barrack, indoor, or outdoor use, and be most economical, may be made by obtaining from the frame-maker's a "canvas-stretcher," say 4 ft. by 2. Four strong screw-eyes are screwed in the top to hang it to two nails in the

EXHIBITIONS.

SOCIETY.	Place.	Open.	Close.	Last date for sending in.	Secretary.
Exhibition Committee ...	Amsterdam.	Oct. 1.	Oct. 15.	Sept. 22.	Chr. J. Schuver, P. C. Hoofstraat 72, Amsterdam.
Am: Phot: Soc: ...	Glasgow.	Sept. 1.	Oct. 3.	Aug. 22.	Wm. Goodwin, 3, Lynedoch Street, Glasgow.
Phot: Soc: of Great Britain	London.	Sept. 28.	Nov. 12.	Sept. 16.	H. A. Lawrance, 50, Great Russell Street, London, W.C.
Phot: Soc: ...	Hackney.	Oct. 21.	Oct. 22.	.....	W. Fenton Jones, 6, Victoria Street, Hackney, N.E.
Art Gallery Committee .	Leeds.	Dec. 7.	Jan 9.	Nov. 27.	Geo. Birkett, Municipal Art Gallery, Leeds.

wall, and a continuous curtain is nailed all round, the said curtain deep enough to touch the ground, the opening of which should lap over 18 in. on the side opposite the light, while a lead may be sewn at the bottom to ensure the curtain coming to after having given ingress or egress to the operator.

The canvas-stretcher may be covered with red and yellow fabric (one of each); the curtain, nailed over the edge on the top, may be made of black silesia, lined with red twill or "Turkey red."

When it has to be removed it can be unhooked from the nails on the wall or the branch of a tree, if outside, and the curtain folded over on to the stretcher, and with the plank on trestles, which can do duty for a table, occupy a very small space, and be ready to hang up again on the next wall in a very few minutes. If a lamp is used, a hole cut at the top and an elbow-jointed zinc tube can be let down to cover the top of the lamp chimney, and carry off smoke or deleterious gases, while affording ventilation at the same time.

The cost will not exceed one guinea or a guinea and a half at the outside.—Yours, etc., L. MOONEN.

* * * *

AUTOTYPE PRINTING.

SIR,—In the July number of the PHOTOGRAPHIC QUARTERLY of the current year, on page 308, is the following paragraph:—"Clean a quarter-plate negative . . . increased or decreased as necessary."

I don't know much about actinometers, the testimonials about them having been so widely conflicting that I have never invested in any of them. Some form, however, being apparently absolutely necessary for autotype printing, I feel that I should like to have this paragraph thoroughly explained. Down to line 33—"Number them 30, and cover with the remaining piece of glass"—everything seems plain sailing, but from that point one begins to worry about what on earth has become of the two slips of glass with the three pieces of ruby paper between them. Or does Mr. James mean that the glass plus three pieces of ruby paper, and the glass with the graduated thicknesses of white paper, are to be bound up all together? I have studied this excellent paper carefully, and it has aroused in me a great longing to try this autotype tissue, and I have sent for price lists, etc., but before going further yours truly would like to get at the bottom of this actinometer.—I am, etc., D.

* * * *

PIRATING APPARATUS.

SIR,—We have to-day had sent to us by a gentleman, a camera which he had bought as one of our Patent "Acmes," but from which the name plate had been lost, asking us to put in a new tablet; but although the camera is an exact copy of ours in every respect, it is not of our make, and is of decidedly inferior workmanship to what we supply. We therefore wish to warn the public against purchasing such cameras, and to state that we shall be pleased to verify for anybody, a camera that they may have bought, described as of our manufacture, while we shall be much obliged for any information which may help us to discover who is making these cameras, so that we may take such measures as the law allows, to protect both ourselves and the public.

Perhaps you will be good enough to publish this letter in your journal.—We are, yours, etc. W. WATSON AND SONS.

313, High Holborn, W.C. Sept. 15th, 1891.

* * * *

"HELP THE POOR PROFESSIONAL."

SIR,—I have much pleasure in enclosing a guinea, as I promised, and which I shall repeat annually, towards Mr. Harry Alcock's "Poor Professional" scheme; his generous offer of personal service in the distribution of help to the needy assures success for the scheme and is worth very many guineas, as true charity.

I fear that my letter of the 28th ult. was more dictatorial in tone and more indefinite as to the phrase "deserving" than I at all intended; Mr. Alcock has expressed himself more happily. Far from advocating any such idea as getting rid of the needy by chucking them something to spend, I, too, think that assistance should be given in a way which promises to really benefit.

All that I wished to convey was that those who had brought about their misfortunes by their own folly, or worse, should not be deprived of the helping hand which so often might save the utter wreck of the good parts which exist in all, however far they have travelled down hill.—Yours truly,

A READER OF "THE AMATEUR PHOTOGRAPHER."

[NOTE.—We have sent on the cheque to Mr. Harry Alcock.—ED : AM : PHOT.]

Photography at the Seaside.

THE occupation of the poor seaside *al fresco* photographer is seriously threatened. Indeed, we might fairly say it is already undermined. London visitors turn up their superior noses at his humble glass positives, and his only hope lies in the patronage of the rustics who may be brought in from the interior by the local excursion trains. Babies even fail him nowadays, for what is home without a camera? and babies and the cat are the elementary studies of papa and of elder brothers and sisters. Yet a good deal of photography goes on at the seaside, but it is not of native production. Visitors bring their cameras with them, and even go to work photographing each other under the very eyes of the local man. We are bound to say the operation as conducted by the amateur, especially if the latter be a lady, is a good deal more amusing to the on-looker than the performance of the professional, but this, we are afraid, is no consolation to the latter. We happened to be at Margate the other day, and were fortunate enough to "assist," in the capacity of a delighted silent witness, at a sort of photographic family party. The proceedings are best described by putting them into a dramatic form.

(SCENE: A portion of the approaches to the shore by the Fort. A camera and a dress, the owner of which has her head concealed by the focussing cloth. In front of the camera is a portly person grasping affectionately the hand of another gentleman less portly. Both have a docile, helpless expression in their faces, and both are addressed as "Pa" by their respective daughters, who pose as decidedly candid critics.)

LADY OPERATOR (suddenly emerging from underneath the focussing cloth and showing a head of hair decidedly "fuzzy"). Come a little nearer, pa. (Dives under the cloth. The two pas shuffle forward a couple of steps, still grasping hands, and suggesting they are about to dance the polka.)

CRITICAL DAUGHTER OF THE SHORT PA. Don't shut your eyes, Pa.

THE SHORT PA (in an injured tone). Can't help it, my dear; the sun's full in my face.

LADY OPERATOR (from underneath the focussing cloth). More, more to the side, Pa. (The Pas shuffle to the right). No, no; how stupid! The other side.

THE THIN PA (resignedly). Anything for a quiet life (Shuffles.)

LADY OPERATOR. Now come nearer. (The Pas shuffle.) Nearer still—much nearer. Oh, that's too near. (Rushes in desperation from under the cloth, and drags them violently back. Retires hot and more "fuzzy" than ever to her lair.)

CRITICAL DAUGHTER OF THE THIN PA. You're looking awfully solemn, Pa.

THE THIN PA. Am I, Clara? I'm getting roasted here—I know that. How long is Maria going to be?

MARIA (still under the focussing cloth). Take off your hat, Pa. (Short Pa obeys.) Oh, I've got 'em grand! I've got 'em a treat! Come and look, Julia. (Julia, the critical daughter of the Short Pa, disappears beneath the cloth and holds a consultation with the lady operator. Result of the conference is the shifting of the camera and the recommencement of the posing.)

THE SHORT PA. Don't you think we'd do better like this? (Embraces the Thin Pa.)

LADY OPERATOR. No, no. Don't be so silly. There, that's splendid. Keep like that!—Julia (in a mysterious whisper. Julia runs hurriedly to the camera), shall I take 'em longways or shortways?

JULIA. You must take 'em longways, mustn't you?

LADY OPERATOR. Oh, I only want their heads and shoulders. (Puts the slide in "shortways;" alters her mind, and tries "longways;" finally decides after all in favour of "shortways.")

CLARA. Wait a moment. Your coat's not straight, Pa. (Dashes at the Thin Pa, and arranges him.)

LADY OPERATOR. Beautiful! (Makes the exposure. A look of relief goes over the faces of the whole party at its termination.) There, that's No. 4, I think; we mustn't make a mistake. (Marks the slide, shoulders the camera, and the whole party departs.)

It is only fair to say that both the sitters, the lady operator, and the critics were entirely indifferent to the presence of a crowd of spectators, who were too polite to offer a word of comment, though doubtless they thought the more.

Photographic Procedure.

By E. J. WALL,

Author of the "Dictionary of Photography."

SECTION I.

THE CAMERA AND ITS APPURTENANCES.

Shutters, Instantaneous (continued).

Table of Commercial Shutters arranged in above classes, showing the Speed of each. Where the speed is distinguished by an asterisk, it has been experimentally determined by some observer; in all other cases the speed is that stated by the makers; where no speed is given, this depends upon particular circumstances such as, with the drop shutter, the use of india-rubber bands, etc.

CLASS AND NAME.	SPEED.		REMARKS.
	Lowest.	Highest.	
I.—EXPOSING SHUTTERS.			
Cadett's Drop	Time	$\frac{1}{3}$ sec.*	...
„ Pneumatic	„	...	...
Lancaster's Pneumatic.....	Time*	$\frac{1}{25}$ sec.*	$\frac{1}{25}$ sec. sky, $\frac{1}{20}$ sec. foreground.
Marion's Dolce	Time	...	...
Newman's Studio	„	...	...
Taylor's Exposing Flap ...	„	...	...
Thornton-Pickard Studio...	„	...	...
Tylar's Self-Portrait.....	„	...	...
II.—RAPID SHUTTERS.			
a 1. Drop.			
Simple Drop	$\frac{1}{2}$ sec.*	$\frac{1}{5}$ sec.*	...
„ „ with i.r.bands	...	$\frac{1}{10}$ sec.*	...
a 2. Flap and Drop.			
Perken's Right-about-turn	...	...	...
Reynolds and Branson's "Leeds"	$\frac{1}{50}$ *	$\frac{1}{100}$ *	{ $\frac{1}{50}$ sky, $\frac{1}{100}$ fore- ground; and $\frac{1}{75}$ foreground, $\frac{1}{100}$ sky Less for sky, $\frac{1}{22}$ *
Reynolds and Branson's "Phoenix"			
Robinson's "Regent"			
a 3. Double Drop.			
Forrest's "Due Ratio".....	...	...	...
Place's	...	...	...
Tylar's Foreground	Time	$\frac{1}{3}$ sec.*	$\frac{1}{25}$ sky, $\frac{1}{3}$ fore- ground
Vevers' Window Blind.....	Time	$\frac{1}{3}$ sec.*	$\frac{1}{25}$ sky, $\frac{1}{3}$ fore- ground
a 4. Rotating Screen.			
Cadett's Lightning	$\frac{1}{25}$ *	$\frac{1}{3}$ *	...
Lancaster's Elliptical	...	...	...
„ Instantograph.	...	$\frac{1}{5}$ sec.*	Screenshaped to give less sky exposure
Leisk's Sky.....	$\frac{1}{10}$ sec.*	$\frac{1}{2}$ sec.*	Less for sky
Underwood's XL	$\frac{1}{21}$ sec.*	$\frac{1}{5}$ sec.*	And time
a 5. Flap and Double Flap.			
Furnell's	...	$\frac{1}{15}$ *	...
Guerry	...	$\frac{1}{35}$ *	...
Perken's Economic	...	...	...
Tylar's Norden Flap.....	$\frac{1}{3}$ *	$\frac{1}{11}$ *	Sky $\frac{1}{10}$, fore- ground $\frac{1}{2}$; sky $\frac{1}{20}$, foreground. $\frac{1}{11}$
a 6. Go and Return.			
Gotz Volute	...	...	...
Lancaster's Chronolux.....	*4 sec.	$\frac{1}{2}$ sec.*	...
Mitchell's Pneumatic Re- turn	...	$\frac{1}{5}$ sec.*	Less for sky
Perken's Plunge	$\frac{1}{8}$ *	$\frac{1}{11}$ *	...
a 7. Blind.			
Kershaw	...	$\frac{1}{100}$ *	...
Thornton-Pickard's Time...	Time*	$\frac{1}{25}$ sec.*	See table below
„ „ Inst....	$\frac{1}{25}$ sec.*	$\frac{1}{5}$ sec.*	„ „
Underwood's Instantolux...	$\frac{1}{25}$ sec.*	$\frac{1}{5}$ sec.*	„ „
a 8. Opening from Centre.			
Gotz Wing.....	...	$\frac{1}{5}$ sec.*	With two extra bands, $\frac{1}{5}$ sec.
Lancaster's '90 Chronolux	3 sec.*	$\frac{1}{80}$ *	...
Thornton-Pickard's Double Blind	...	$\frac{1}{100}$ sec.*	...

CLASS AND NAME.	SPEED.		REMARKS.
	Lowest.	Highest.	
Sands and Hunter's Ribbon	...	...	...
The "Stanley"	17 sec.*	$\frac{1}{35}$ sec.*	...
Stereoscopic Company's ...	...	...	...
Watson's Double Snap.....	...	$\frac{1}{20}$ *	...
<i>a 9. Ever-Set.</i>			
L'Automatique	...	$\frac{1}{50}$ *	...
Lancaster's Sea Saw.....	...	$\frac{1}{50}$ *	...
" " " " Oval...	...	$\frac{1}{50}$ *	...
Shew's Repeat	...	$\frac{1}{50}$ *	...
CLASS II. b. — BEHIND LENS.			
Heath's Foregrd. (Marion)	...	...	...
Thornton-Pickard.....	...	...	...
CLASS II. c. — BETWEEN LENSES.			
<i>1. Go and Return.</i>			
Grimston (Wratten).....	...	$\frac{1}{25}$ *	...
Newman's	1 sec.*	$\frac{1}{5}$ *	Varies considerably
Perken's Optimus.....	...	...	...
Stanley's Sergeant's	Time	$\frac{1}{10}$ *	...
<i>2. Blind or Drop.</i>			
Perken's Drop	...	...	...
Thornton-Pickard's Blind	...	$\frac{1}{50}$ *	See table below
<i>3. Centre Opening.</i>			
<i>4. Eyelid.</i>			
Bain's Crown.....	...	...	...
Beck-Newman	1	$\frac{1}{100}$	...
Caldwell's (Wray) ...	$\frac{1}{5}$ *	$\frac{1}{200}$	...
Shew's Eclipse	...	...	...
<i>5. Diamond.</i>			
Sands and Hunter's Patent	...	$\frac{1}{35}$ *	...
Wollaston's Diaphragmatic	...	$\frac{1}{55}$ *	...
<i>6. Strip.</i>			
Thornton-Pickard.....	...	...	See table below
<i>7. Iris.</i>			
Dallmeyer	...	$\frac{1}{100}$	...
Gotz' Iris	...	...	...
Shew's Matthioli	...	$\frac{1}{50}$ *	...
Voigtlander's (Marion) ...	...	$\frac{1}{25}$ *	...
<i>8. Rotating Screen.</i>			
Celeritas (Adams and Co.)	...	$\frac{1}{500}$	Stated also to work up to $\frac{1}{1000}$ sec.
CLASS II. d. — IN FRONT OF PLATE.			
Loman's Light Economic...	$\frac{1}{4}$ *	$\frac{1}{300}$ *	With 1 in. aperture on $\frac{1}{4}$ -pl.

Messrs. Thornton-Pickard give the following table for their shutters :—

Size of Shutter.	No. of Turns of the Speed Knob.	Speed in Fractions of a Second.	Size of Shutter.	No. of Turns of the Speed Knob.	Speed in Fractions of a Second.
$1\frac{1}{2}$ in.....	0	$\frac{1}{5}$	3 in.	0	$\frac{1}{5}$
	5	$\frac{1}{5}$		5	$\frac{1}{5}$
	15	$\frac{1}{5}$		15	$\frac{1}{5}$
2 in.	0	$\frac{1}{5}$	$3\frac{1}{2}$ in.....	0	$\frac{1}{5}$
	5	$\frac{1}{5}$		5	$\frac{1}{5}$
	15	$\frac{1}{5}$		15	$\frac{1}{5}$
$2\frac{1}{2}$ in. and $2\frac{1}{2}$ in.	0	$\frac{1}{2}$	4 in.	0	$\frac{1}{2}$
	5	$\frac{1}{5}$		5	$\frac{1}{5}$
	15	$\frac{1}{5}$		15	$\frac{1}{5}$

These approximate speeds have been arrived at after a series of very careful tests with apparatus constructed specially for the purpose. The method used gives undeniably accurate results.

The speeds used in this table apply to the "time and instantaneous" shutter, "instantaneous" shutter, "foreground" shutter. The "extra-rapid time" shutter (double blind) pattern works at one and a-half times these speeds.

The "special" instantaneous (double blind) pattern works at twice these speeds.

(To be continued.)

Composition, and Light and Shade.

*Selected and arranged for the use of Photographers, from
"Burnet's Essays," with Introduction and Notes.*

By H. P. ROBINSON.

CHAPTER XVI.

REMBRANDT, from his first commencement in the art, seems to have been always solicitous to represent the brightness of light at the sacrifice of every other quality; and in his first works it often forms a circumscribed spot, for, as Reynolds justly observes, "that light must appear the brightest which is surrounded by the greatest quantity of

being of a warm tone) keep up a connection without destroying the breadth of light and shade.

In Fig 34, "Christ Restoring the Daughter of Jairus," we have a principle upon which many of his pictures are constructed, viz., a ray of light falling into an apartment, and received upon a light object which, as in nature, reflects back the rays, and illuminates the surrounding objects, giving thus his principal light the properties of light itself. The shadows of all objects receiving such direct rays, we sometimes see strongly defined, as is the case in nature, and, indeed, we often find Rembrandt placing objects for the express purpose of producing such shadows, which gives an appearance of truth to the whole effect; at other times we find the shadows swallowed up in the splendour of the light,



FIG. 34—REMBRANDT.

shade;" but though this conduct enables the artist to give light one of its strong characteristics, whether it be the sun, a candle, fire, etc., yet there are other properties quite as essential, and more easy to contend with, which are its effects on the different objects it illuminates. Rembrandt's close attention to nature soon led him to expand his principle; for example, he perceived the flame of a candle exceeded in brightness everything round it in a ten-fold ratio, which could be expressed only by darkening the whole, and leaving the light in a spot, and thereby extinguishing its influential effect: but if the candle itself was hid, the appearance of every object under its influence was not only more easily given, but the effect of the whole became more deceptive and natural. His extending of the light through the picture gradually became more enlarged; and even his deepest shadows are illuminated by streaks of red or rich brown running into them, which (from his principal light

as if afraid of disturbing its breadth. Sometimes we find his strong light, his strong dark, and his hot and cold colours all focussed at one point; and at other times his darks employed to clear up the middle tint, and his strongest colours made the means of uniting his light with the shade. In short, whatever was his practice, he seems always to have had some end to accomplish, and when we find him departing from what would be the effect in nature under such circumstances, we may rest assured that such departure did not arise from ignorance. We often see the attempts of De Hooe and others at representing light confined to its effect in the sky or on the objects out of doors, while it is but sparingly admitted on the figures seen within the apartment; on the contrary, Rembrandt's figures are lighted up with a splendour which extinguishes every other subordinate light, and which we often cannot account for upon the common principles of nature.

When the light part of the composition is placed upon the dark side of the background, and the dark part upon the light side, greater firmness and solidity are produced, and a more equal balance is kept up. The contrary method has more breadth and softness of effect, but unless the light part is of a different hue from the light ground upon which it may be placed, and the dark part is of a warmer or colder tone than the shadows which surround it, there is a danger of their losing their substance and becoming flat. Vandyck, in this composition (fig. 35), has made the colours of his figures assist his arrangement of light and shade; the white dress of the child and the yellow dress of the queen make the principal light; the white is repeated by the cap, ruff, etc., of the other figures; the yellow is carried across by the embroidery upon the king's dress, and spread out upon the under part of the sky; the darks are made up of the dark dress of the king and the child's dress, which is a dull



FIG. 35.—VANDYCK.

green; the latter tint is carried across the picture by part of the curtain turned up, of the same colour; the curtain itself is a dull yellow and brown, serving as a ground to the queen's dress; the red cloth of the table is repeated by the two chairs; the floor being a dark neutral tint gives a firmness to the bottom of both the figures. If the student, in examining the light and shade of a picture, remarks what colours are resorted to for such purpose, in a few trials he will find that which at first appears complicated and difficult to unravel will become easy and beneficial, serving to strengthen his powers of reflection in the highest degree.

The dark forming the greatest mass of shadow of the picture is often, before being brought in contact with the extreme light, increased and collected to a point by some object whose local colour conduces to such purpose, as in the example here given (fig. 36); where the black dress of the female is brought, at its darkest portion, in contact with the lightest portion of the white dress. This serves to give air to the deepest shades of the background, and greater firmness to the object so relieved. The collecting to one head of all the

light and all the dark of a piece, gives the artist the greatest force of the palette. To enable the other side of the picture to keep up with so much vigour, Metzsu has thrown his strong colour into the scale, and brought his red and blue in contact, by a glove lying upon the chair, at the point nearest the eye. The warm colour is taken to the other side by a dog, etc., and the white of the female repeated by a handkerchief the man holds in his hand, his neckcloth, etc.

In speaking of Rembrandt, Burnet justly says:—"When we find him departing from what would be the effect in nature, we may rest assured that such departure did not arise from ignorance." This passage may be commended to those amateurs who condemn everything in a picture that does not appear to them to be like nature. The subtleties and mysteries of nature are not always apparent to the superficial observer, and it is a common saying, "I should not have believed it had I seen it in a picture." Rembrandt was not the only artist who assisted nature to be pictorial, not from ignorance but from skill and knowledge. Sir



FIG. 36.—METZSU.

Joshua Reynolds frequently threw impossible shadows over his figures, yet who shall say they are not beautiful, and—it may sound like a bull—natural. For examples of this treatment, see "Robinetta," and "The Snake in the Grass," by him in the National Gallery. When Turner was told he had two suns in his picture, he said he wanted them for the sake of the effect, and yet we now quibble and quarrel over the slightest departure from what we think is nature, and deride the great men for not knowing their art. At the same time it is not intended to hold up great departures from nature to the followers of a realistic art like photography.



Ventnor — A correspondent writes: "Some weeks since, as I was preparing to holiday in Sussex, I saw a letter from Mr. Livesay giving in answer to a query some particulars of Ventnor. I at once decided to go there, and must say there can be few better places for the artist or camera man so near home, and having spent a most enjoyable fortnight, I take this opportunity of thanking Mr. Livesay for having contributed so much thereto. As an instance of how generally the AMATEUR PHOTOGRAPHER is read, I may say that the letter in question was the cause of at least five amateurs visiting the hotel where I put up."

A New Process of Photo-zinco-graphy.

By A. and L. LUMIERE.

THE method which we propose is a modification of the albumen process—the ease and rapidity with which it permits one obtaining images of great fineness, the ease with which it is etched, and the employment of a photographic positive as screen.

Most of the actual processes now in vogue demand reversed clichés at once vigorous and transparent, conditions sometimes difficult to combine; for the rest, the manipulations to which they give rise are delicate and are not conducive to satisfactory results without considerable practice. Our method has not the same exigencies, and, in conforming exactly to the summarised indications which follow, one may obtain by an easy process, pictures devoid of all defects and capable of giving excellent lithographic prints or of being converted into typographic blocks.

We prepare the following solution:—

Water	..	..	..	1,000 parts.
Egg albumen	..	..	..	100 „
Ammonium bichromate	..	..	3	„
Ammonia, q.s.	to make it a clear yellow colour.			

The mixture should be vigorously shaken, carefully filtered, and then spread by means of a whirler on a previously well-cleaned and polished zinc plate. When a thin film of albumen is thus obtained, the drying is accelerated by the application of a gentle heat.

The plate is then exposed to light under a positive, and when the exposure is considered sufficient, the plate is removed and coated by means of a roller with a thin film of ink diluted with a moderately thick varnish. The appearance of the surface should now be a dark grey, without any appearance of the image, and not black. The plate is then plunged into warm water, and the design soon makes its appearance on rubbing with a tuft of cotton wool.

The image thus obtained is negative, in which the dark lines of the design are reproduced as bare zinc since on these lines the albumen dissolves. In fact, the albumen protected by the lines of the positive from the action of light, remains soluble.

The plate is then rinsed in plenty of water, dried, and placed in a solution of perchloride of iron, showing 35 deg. Beaume, where it is allowed to remain for 10 or 15 seconds. It is again well washed and dried. The plate is then heated to 50 deg. and rolled up with a roller and the above-described ink; the ink adheres to the whole surface; one thus makes a black tablet; the plate is then rolled up with a roller free from ink, which removes the ink from those places where it is not retained by the etching. The plate is then, with a tuft of cotton wool, saturated with solution of ammonia.

The image now appears black on the bright zinc ground. During this operation the chromated albumen rendered insoluble by the action of light dissolves in turn in the solution of ammonia, and one thus effects a second development the reverse of the first. By the rubbing and by the aid of the ammonia the ink is removed from the insoluble albumen, whilst it remains adherent to the etched zinc.

This last process is the basis of our process, and the thing which is novel. We may add that it is very curious to see the action of this inversion of the image under the action of the ammonia. The solutions of potash, soda, etc., or their carbonates, do not tend to give such good results, probably because they saponify certain constituents of the

ink, and because they do not possess the diffusive power of ammonia.

If the plate is to be used for lithography it is prepared, as usual, by the ordinary gallic, phosphoric, or chromic solutions, etc. If, on the other hand, type blocks are required, the plate is dusted with powdered resin, heated, as usual, before the first etching. In this last case it is preferable to reduce the duration of immersion in the perchloride of iron, in order to prevent any appreciable etching on those points which shall finally be in relief.—*Paris Photographe.*

Reviews.

One Hundred Photographic Formulae. By W. Ingles Rogers. (London: Hazell, Watson, and Viney, Ltd., 1, Creed Lane, E.C.) 6d.

This little book is intended to serve for handy reference in the dark-room or laboratory. In the compass of a very few pages Mr. Rogers has got together all the most generally used formulae; they embrace the following processes of photography:—Wet collodion—Dry collodion—Albumen—Honey—Ferrotypes—Gelatine dry plate—Gelatine film—Kallitype—Silver printing—Aristotype—Bromide printing—Platinum—Carbon—Iron, etc., etc.

The formulae are collected from the most reliable sources and arranged for ready reference. Every worker in photography, either professional or amateur, will find "100 Photographic Formulae" practically indispensable.

Die Amateur-Photographie, ein Lehr- und Handbuch der Lichtbildkunst. By Robert Talbot. (Romain Talbot, Berlin C, 46, Kaiser Wilhelm Strasse.) 1s. 6d. Third Edition.

This little work is intended to be the first stepping-stone to the practice of photography, and is divided into three parts. Part one is devoted to an explanation of the most elementary principles of photography, a description of the necessary apparatus, the dark-room, focussing and exposure, developing and finishing the negative, and the preparation of a positive. The second part enters more fully into the operations, and includes brief elementary notes on the choice of apparatus, and the fundamental operations of developing, printing by various processes, enlarging, lantern work, micro-photography, etc.; and the third part treats of various printing processes. The book is well printed and contains numerous cuts illustrative of different apparatus, and forms a complete elementary guide to beginners in photography.

Materia Photographica. By Clement J. Leaper, F.C.S. (Iliffe and Son.) 5s.

Mr. Leaper is well known as a writer on photographic subjects. He has for many years been on the contributing staff of the *AMATEUR PHOTOGRAPHER*, and has contributed the major portion of the book before us to the columns of our contemporary *Photography*. The book has much to commend it, and will be useful to the photographic chemist, and as a work of reference to all interested in photography. It has an excellent index, and in the appendix some tables, measures, etc., are given, which cannot fail to be of service.

Military Photography. By Owen E. Wheeler. (Iliffe and Son.) 1s. 6d.

This is a reprint of articles which appeared in the *Broad Arrow* and *Naval and Military Gazette*. It treats of "Photography in Reconnaissance," "General Utility for Military Purposes," and "Hints on Equipment." The class of photographers interested in the subject—military men—will probably have made themselves familiar with the author's views, but at least the book serves a useful purpose by drawing attention to the aid photography may be in either the "piping times of peace" or the "tumult of war."

Mr. J. J. Cater writes:—"I have not seen mentioned the following plan of avoiding breakage of negatives whilst being developed, which plan I have followed for several years. It is to place inside the earthenware sink a thick india-rubber mat with small holes, the mat to be large enough in size to cover the bottom of the sink. It will last for years and is not affected by most chemicals."

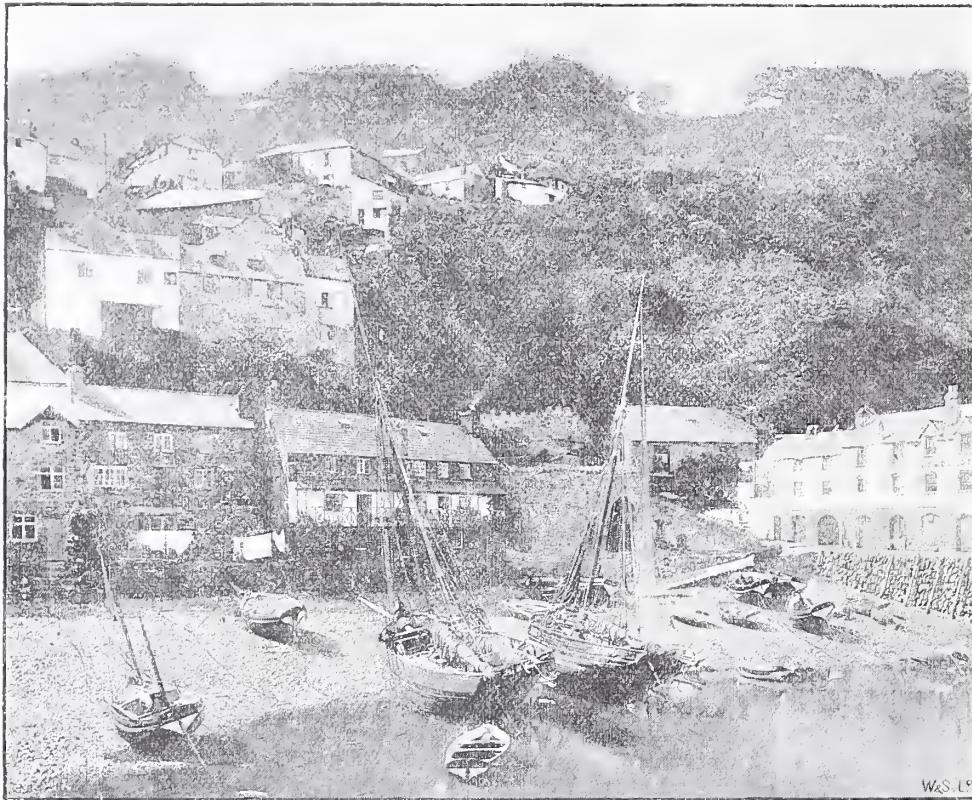
Holiday Resorts and Photographic Haunts.

THROUGH NORTH DEVON AND SOMERSET WITH A CAMERA.

By JOHN A. HODGES.

IV—*Clovelly—By Water and by Road—Paintings and Photographs—Its Situation and Attractions—Clovelly Street—Best Time for the Visit—Clovelly Folk and Fishermen—Studies—Earnest Words—The Harbour and Fishing Boats—An Annoyance—Accommodation—A Word of Explanation—Good Advice—A Wide-Angle Lens Necessary—Changing Plates—A Travelling Lamp—Further Suggestions—Large Cameras versus Small—Enlarged Negatives—Bromide Enlargements Condemned—Concluding Words.*

WE are now approaching the end of our tour, and it is time to



Clovelly.

move on to our last head-quarters, which we have decided shall be the primitive little fishing village of Clovelly. The first question to decide is how to get there, and again we have a variety of routes open to us. If we are good sailors, and prefer the sea, we cannot do better than take one of the numerous steamers which are constantly making trips up and down the coast during the summer. The short voyage occupies about two hours, and is a most enjoyable one. There can be no question that the best way of seeing Clovelly to the greatest advantage is to approach it by water. The alternative route would be to take train to Bideford, from whence it is a pleasant, breezy drive of about eleven miles to Clovelly.

Photographs and paintings have made most of us tolerably familiar with the general aspect of Clovelly, but those who have visited this most charming little village will admit that neither painting nor photography has done full justice to it. Nor is it less difficult to adequately describe its beauty in language. Its situation and appearance are unique—we can recall no other place with which to compare it. Clovelly is nothing more than a collection of picturesque old cottages clustered on the sides of a steep

ravine, stretching down from the cliff summit to the beach below, the whole embowered in the most luxuriant of foliage. Clovelly Street is spoken of by the inhabitants, but road or street, in the ordinary acceptation of the term, there is none. If one approach by carriage, one must perforce leave it at the upper end of the village, for the so-called "Street" consists of a series of rough steps chiefly composed of wood, alternated with pebbles laid in cement. Late in September, when the majority of the visitors have taken their departure, and when the waving masses of foliage have turned to the glorious shades and hues of autumn, is the time for the photographer to pay his first visit. But Clovelly is beautiful at any time, and its aspect changes with every varying condition of the atmosphere. To see and properly realize its beauty one must take up one's residence in the village for a time; justice cannot be done to it within the short limits of a day's trip. The inhabitants, honest, rough fisher folk, are no less interesting and picturesque than the place itself, and the fine figures and striking faces of the men will afford splendid material to the lover of genre or figure studies.

Such, however, will not easily fall to the lot of the day tripper, for the Clovelly fisherman is independent to a degree and is not to be cajoled into sitting for his portrait by the mere offer of a bribe. He who wishes to make the most of his material, and rare opportunities will offer themselves, will, if he be wise, at first leave his camera at home, and seek by chatty conversation, in the first place, to win the confidence and good-will of the men, before attempting any photography.

Quaint as is the village itself, yet the primitive little harbour and its surroundings are even more so. The photograph which the Editor has been good enough to reproduce gives one some idea of the appearance of the place as seen from the extremity of the quay. The best time to work from this quarter is quite early in the morning or in the afternoon; in the middle of the day the sun works round to the hills behind the town, and renders good lighting difficult to obtain. The steamboats are at once a convenience and an annoyance; they, of course, afford us an easy means of access, but at the same time bring with them a great number of day trippers, who frequently are very much in the

way of the photographer, the place being so circumscribed. This inconvenience, however, happens only on three days out of the seven, and does not last more than a few hours, the boats returning about three o'clock in the afternoon. It will be understood from the description which has been given, that Clovelly does not boast very extensive accommodation. The visitor, however, even should he choose the most humble cottage for his temporary abode may rely upon the most scrupulous cleanliness (which is more than can be said for many more pretentious places) and the strictest honesty. Except in the middle of August no difficulty will be found in getting quarters. There are two inns, the Red Lion at the end of the quay, and the New Inn about half way up Clovelly Street, the latter being celebrated for its almost unique collection of old china.

After the foregoing description it will be almost superfluous to say that Clovelly is a good field for the photographer. Indeed, the fact is, it would be very difficult to find a better; every nook and corner in the place seems worth a plate. But the caution already given must be borne in mind here, for again we find that our old enemy, the whitewash brush, has been

at work; however, full exposures and suitable development will save us from getting undue density in our negatives from this cause. Specific directions as to selecting points of view are altogether unnecessary at Clovelly. And the writer would here take the opportunity of explaining that although somewhat minute instructions as to the setting up of the camera have from time to time been made in the course of these articles, such were only intended for the guidance of those who are at present in their novitiate, and not for the advanced worker, who will be well able to determine such matters for himself. Conventionality should always be avoided. The entire district described has been both painted and photographed, as, indeed, have been all the choicest gems of landscape scenery wherever they are to be found. But a new rendering of even a hackneyed subject is always possible to the careful worker who possesses the power of grappling with a difficulty, and when such is secured, the triumph is great. "Where is that?" asks a friend. "On! that is Watersmeet," you reply. The exclamation, "Why, I have never seen it taken from there before," is sufficient praise to compensate for all the time and trouble expended in securing the view.

It will soon be found that the use of a moderately wide-angle lens—say, one having a focal length equal to the base line of the plate—is almost imperative, some of the quaintest and choicest of the many "bits" being in situations too confined to permit the use of a longer focussed instrument. Such a lens, however, must be used with judgment, and the fact of its having been employed must never be apparent from an inspection of the picture; if it be, the lens has been misused. Another matter of great importance to the travelling photographer is the changing of plates. This is best done at night in one's bedroom, but care should always be taken to see that white light does not enter the room from without. A good portable lantern, of large dimensions, and burning an ordinary carriage candle, is the best. Take care to have a safe light and use plenty of it; groping in the dark is a mistake. Never be without a broad camel-hair brush, and use it both in putting the plates in the slides, and in removing them: in dry weather it is impossible to avoid dust, and this precaution is the only way of effectually avoiding spots in negatives. Notwithstanding the greater effectiveness of large photographs, do not be tempted to go on tour with a large camera; its weight will detract greatly both from the pleasure and profit which would otherwise be enjoyed. The luxuriously inclined may take a second camera of large dimensions to be used on special occasions, but the camera which is to be the constant companion of all one's rambles should be light and compact, and not exceed the well-proportioned size of $7\frac{1}{2}$ by 5. If the original small negatives are considered too small for decorative or exhibition purposes, it is not a very difficult matter to learn to make a good enlarged negative from which a print by any process and upon any kind of paper can be made. But avoid direct enlargements on bromide paper; they are not, and never can be, artistic. In my opinion, but few negatives will stand enlarging, and of all photographic art methods they rank the lowest.

Reader, in these last words, I have perhaps somewhat wandered from my theme, and yet, if the Editor will permit it, I should like them to remain, for only by working in the right direction, and by adopting the best methods, can we hope to raise and improve photography as an art.



Gone Astray.—Our publishers have for four weeks received through the returned letter office, a copy of the AMATEUR PHOTOGRAPHER addressed to Mr. E. Bacon, Loughborough Hotel, Lincolnshire. Perhaps this note will come under the notice of the sender. Mr. Bacon is not to be found.

Focussing Screen.—A correspondent writes: "It may not be new, but I have accidentally discovered that a capital substitute for a focussing glass may be made with a piece of common glass. Cut to fit frame, then pour some starch over it, made rather thin so as to form an even surface. The starch must not be put on with a brush. The glass must be laid quite flat; when dry, it will be ready for use."

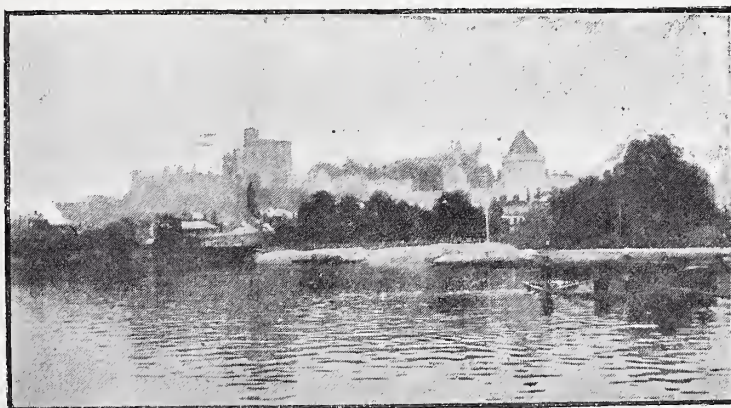
FROM OXFORD TO KINGSTON.

GIVEN fine weather, there surely can be no pleasanter or lazier method of spending a couple of days than by doing the above trip. A few days ago we were at Paddington at 7.25 a.m., just in time to catch the train for Oxford. A quick run through rather pretty country, with, as we get higher up, a glimpse here and there of the Thames, and we slacken down and stop just as the



Salter's, Oxford.

Oxford clocks strike nine. It is many years since we were in Oxford, but conclude regretfully that we have no time to look about us, as we want to catch Salter's steam launch at Folly Bridge at 9.30. Handing our bag to a lad, we set out at a smart walk for Salter's, and get there at 9.15, where, presenting our ticket and requesting that we might be put over on to a barge in order to photograph the bridge and boat, we are instantly handed over to the care of a waterman, who paddles us over, and we make a couple of exposures and get on to the launch, the bell rings, and we forge slowly ahead, leaving the bridge and the line of house-boats quickly behind. This part of the river is by no means tempting for hand-camera shots, so we inspect the boat and look round a bit, find out the steward and the dark-room. The steward is extremely polite, anxious to do all in his power to help us. Our party is twenty-one all told, and we soon settle down into our respective places—three or four American gentlemen, several ladies of different parties—and by the time we get to Ifley Lock, a little of the Englishman's habitual stiffness and starch is gone, and conversation is more rife. We immediately chum up to some young friend who has the ubiquitous wooden legs, but he does not go in for hand-camera work, so we are alone



Windsor Castle.

in our work. We can hardly give in detail all the choice and charming bits we have a shot at, from Ifley Water Wheel, Nuneham Bridge, Abingdon Weir, Day's Lock and Weir (which is one of the prettiest little shots we have), Shillingford Bridge, with some swans which conveniently pose in the foreground; and here the professional joker of the party suggests that the charge for ferrying over the river is excessive, it being a *shilling ford*, quite

eleven pence too much, and 1.45 finds us at Wallingford Bridge, where we hail with delight the chance of something in the shape of eating and drinking, as the run down in the teeth of what is by no means a warm breeze has considerably sharpened our appetites. Tickets are to be had on board for a 2s. 6d. luncheon at "The Lamb," where again the professional Joe Miller suggests the hope that it will be a good-sized lamb, as, if the appetites of all the party are equal to his, what will one small lamb be amongst so many lion-like appetites? Of the lunch we cannot speak in too high terms; the fare was excellent, and everything as cleanly and as nice as it could be. After lunch we just have time for a shot at Wallingford Market Place, and then we are all aboard again and ready for fresh views. Wallingford Bridge, Goring, and Streatley are the last work we do, and with a bag of twenty-four exposures we are satisfied to rest content, as the light now gets very bad, and the wind, increasing in keenness, makes us gladly welcome a protection and a little rest. We are now free to use our eyes and tongues and note the curious signs we pass, such as "The Sow and Pigs," "The Beetle and Wedge," also one hotel which advertises "Boats to let and good accommodation at the — Hotel below moderate charges," and we certainly wonder what below moderate charges must be like. Below Mapledurham we skirt the hideously ugly brick wall of the G.W.R. (Joe Miller suggests the Great Way Round as the proper rendering of these initials). From Mapledurham to just before Sonning Lock is hideously ugly. Though the surface of the river is broken up by punts with their fishermen, it may perhaps be of interest for us to note that during the two days' run we

Wednesday, and Friday, and from Kingston the same days; the boat may be joined anywhere along the river at proportionately reduced fares, and the crew are politeness itself, willing to help as far as lies in their power. The dark-room is very convenient little room, where developing could be effected as well as changing, if required, provided you took your own dishes, etc.; given a fine day and good light, from three to six dozen plates may be easily exposed, and then one may be conscious of missing many a picture.

Exhibitions.

GLASGOW INTERNATIONAL PHOTOGRAPHI EXHIBITION.

[THIRD NOTICE.]

THE Landscape Class is probably the most interesting in the Exhibition, especially for amateurs, and we therefore intend to devote rather more space to criticism of the pictures shown in this class, not only on account of their general good quality, but also on account of the variety of methods employed to convey the ideas of the exhibitors in regard to what constitutes a landscape. It may be said at the outset, that in most of the photographs exhibited little is wanting in the way of execution, but there is great difference in the choice of subjects and the point of view from which the pictures have been taken. Perhaps there is no class of subject, save the Genre Class, which exhibits more variety of opinion as to the composition of a picture, than the Landscape Class. On the one hand, we find it advocated by some that the nearest part of a picture should be sharply focussed, and that the background should be left to take care of itself; the consequence is that the principal purpose of the picture is often lost sight of, and the foreground is pushed into undue prominence. Again, there are some who think that a landscape should exhibit a maximum of detail, and their object is gained by using one of the smallest diaphragms possible, and this at the cost of the atmosphere that is so beautifully seen in nature. Then there is the "fuzzy" or out-of-focus school, which is so often exaggerated. The first requisite of a good picture, however, is to have the point of view well selected, and having made up one's mind what the picture is to be, to make everything subservient to that end, and by throwing as much individuality into the picture as possible to secure a final result, not a

mere transcript of nature, but a true work of art. The medalled pictures in this class probably exhibit better than any others the meaning we have in view. We may say that the judges had at their disposal a silver and a bronze medal, but they have awarded a special gold medal, two silver medals, and a bronze one.

DAVID R. CLARK obtains the special gold medal for "The Trysting Tree." The point of view has been specially selected so as to exhibit the various planes in the picture, giving as nearly as possible their true relative values without unnecessarily obtruding the foreground at the expense of the distance. The composition of the picture shows a tree as the principal object, with a young woman awaiting her lover and looking up the river that sweeps in a curve and is lost in the distance. In the foreground advantage has been taken of a successive series of curves, leading the eye from one plane of the picture to another. The detail of the immediate foreground has been somewhat softened, as also the distance, and the feeling of atmosphere successfully secured, while the foliage and long feathery grasses lend a mystic and poetic feeling to the picture. The judges awarded this picture the gold medal as being the best landscape in the exhibition, The silver medal has been awarded to H. P. ROBINSON, the best executed of his pictures being 262, "May Fly Time." In this picture the large leaves in the foreground are, perhaps, too prominent. It is impossible to avoid them. The foreground here is brought into too great prominence at the expense of the distance, which is softened off. From an artistic point of view, we think that, taking into consideration the intention to make the fisher



Eton.

only saw two fish pulled out, in both cases their size being miserable in the extreme. Sonning, Wargrave, and Shiplake are soon passed, and 7.15 lands us at Henley Bridge in the deepening dusk, just in time to see the climbing the greasy pole and hear the strains of the National Anthem, a fitting ending to the Henley Watermen's Regatta and the day's trip.

Thursday morning, 9.50 punctually, we start from Henley, passing briefly, as we must now, over Hambledon, Hurley, Temple, Marlow, Cookham, Cliefden Woods, Maidenhead, Bray (with famous memory of its vivacious vicar, who, "whatsoever king did reign, would still be vicar of Bray"), Boveney (where a harpist and violinist enliven our passage through the lock, after a shot at whom we descend into the dark-room to change), and Windsor is reached at 1.45, with an hour for lunch, for which you have to find out the best place yourself, and we fail to get quite so good a feed as at Wallingford. Eton, Datchet, Bells of Ouseley, Magna Charta Island, all are shot at, and we finally find ourselves at Shepperton in time to see the tail-end of a race in the Shepperton Regatta, and Sunbury and Moulsey Locks are soon through, and Kingston Bridge lastly looms into sight—grey and ghostlike in the gathering mist and dusk; and, with only ten minutes to catch the 7.14 to Waterloo, we reluctantly restrain our desires for a shot at it, conscious that the exposure will have to be a very long one and we say good-bye to the steward, the captain, and the engineer, to all of whom we are indebted for many interesting little bits of information and news; and we can strongly advise our readers who want a most enjoyable trip to avail themselves of Messrs. Salters' trip. A boat starts from Oxford on Monday,

the principal object in the picture, the foreground, although beautiful in itself, is too pronounced, and fails to secure a true, artistic result. 263, "What Sport?" is better composed but lacks atmosphere behind the figure. 265 is too black. 264, "What is It?" a picture of a very good bull. Can it be an Irish one, too?

A. HORSLEY HINTON exhibits four remarkable pictures, and to one of these, (310) "Where Swaying Reeds Eternal Murmur Make," a special silver medal has been awarded. The whole picture has been purposely put slightly out of focus. There is a great deal of fine poetic feeling thrown into it, in fact it is more like a dry point etching in the immediate foreground than a photograph. Here there is true art, and although one might say that Mr. Hinton's pictures are all of the same class without sufficient variety, yet the effect sought to be obtained, and the result, are thoroughly successful. If any improvement could be suggested it would be a slightly longer exposure of the negative.

311 reminds us of Constable. We do not like 308 or 309 so well, as they lack the vigour of the other two pictures.

The bronze medal has been awarded to Mr. J. G. PRATT for four gelatino-chloride landscapes. They are well composed, and Mr. Pratt shows considerable artistic taste in the point of view selected. They are a trifle hard, however, and, we think, might have printed better in platinotype.

B. ALPIERI exhibits a frame (255) of four pictures, with well-chosen subjects, slightly hard and white. We think they would also have printed better in platinotype.

STEWART SMITH exhibits a set (266), the two lower pictures in his frame being the best, and are apparently the same locality from different points of view.

SNELL ANDERSON has a frame of well-executed pictures (271). The water scene, with the boat, is decidedly the best. In regard to the other three pictures, nothing could be better than their execution; as photographs, they are beautiful, but they lack purpose; they are mere mechanical transcripts of nature; two of them, pictures of tree-trunks, are studies of detail.

DONALD DOVE has some very good work. We prefer set A.

THE COUNTESS LOREDANA DA PORTO BONIN exhibits some well-composed pictures; 267, entitled "Repose," appears the best. They are done on gelatino-chloride paper, and are somewhat wanting in tone.

H. EMMONS shows good subjects, but unfortunately they are too dark in colour.

HUGH REID has a frame of well-selected little studies, and T. GLAZEBROOK exhibits pictures of fair merit; but PATTISON GIBSON's pictures, for a professional, appear to us exceptionally weak.

E. J. JACKSON has some first-class views in the "Pass of Leny." KIDSON TAYLOR also exhibits good work.

JAMES PATRICK has an exceptionally good picture (324), which shows what can be done by an artistic mind in making an ordinary subject poetical in treatment.

In 329, J. A. C. RUTHVEN's pictures show a want of care in the point of view. "A Street in Youghal" has too much foreground, widening out to such an extent as to spoil the picture. This might have been cured by cutting off at least an inch from the foreground. "In The Woods" a pathway also stretches across the most part of the foreground, and the figures, if brought forward, would have overcome this defect. Mr. Ruthven, by avoiding undue prominence of straight lines in his pictures, would greatly improve them.

GEORGE SHERRIFF has several pictures taken on the East Coast of Scotland. They are printed a little dark in tone.

W. M. WARNEUKE has four large platinotypes, but, unfortunately, the best one (339), in Glencloy, is spoiled by too much brush work. Nature requires little assistance of this sort, and if any is necessary it is always better on the negative than on the finished print. 340, "Sunshine," would have been a fairly good picture, but it has been spoilt altogether by the pose of female figure and the absurd position of the male figure in the foreground.

Class XII., Landscapes under whole-plate size, is, from an artistic point of view, disappointing. The technical work on the whole is well done, but there is little or no artistic treatment of the subjects; in consequence there are few of what can be called, in the true sense of the word, *pictures*.

MRS. J. N. HIGNETT exhibits, in our opinion, decidedly the best executed work: a series of four carefully printed platinotypes, for which she has been awarded an extra bronze medal,

the judges having withheld the silver medal altogether in this class.

J. A. C. RUTHVEN obtains a bronze medal for Set B of his Norwegian views, which are well chosen and admirably executed. In this class the only other exhibits that call for attention are those of A. C. GIBSON (372), which show much care; 398, by JOHN REID, and 378, by MARTIN M. J. HARDY.

Class XIII., Marine and Clouds, is poor. The silver medal has been withheld. CLEMENT MILLARD obtains the bronze medal for some small bromide prints of French ironclads.

A. W. GOTTLIEB has a set of clouds, which appear to be somewhat under-exposed and are slightly over-printed.

A. SWAN WATSON has some sunset studies, which look much better as transparencies.

Class XIV., Animals, has a small exhibit, but there is some meritorious work among the pictures. J. CATTO gains the silver medal with his pictures, 437, "Rats," and 438, "Rats Again," which are especially clever.

CHARLES REID gains the bronze medal for his exhibit. We like the poultry best (433). Mr. Reid must have expended an enormous amount of time and trouble in getting these subjects so well arranged on the plate.

KARL GREGER and EDWARD J. JACKSON both exhibit excellent pictures; but we must protest against the photographs of stuffed animals exhibited by D. MACKAY.

Class XV., Outdoor Groups: KARL GREGER gains the silver medal with some very good figure studies printed on Obernetter's paper, toned with platinum. The tone is weak, but the figures are well posed.

F. BREMMER gains the bronze medal with groups of life in eastern climes.

Class XVI., Architecture, is almost the poorest exhibit in the exhibition.

The silver medal has been withheld. C. V. SHADBOLT gains the bronze medal for photographs of the Alhambra in Spain. The tone of the prints is weak.

CLEMENT MILLARD has an interesting exhibit of pictures taken at Malta, but they are hung too high and appear to be under-printed.

In regard to Class XVII., Interiors, C. COURT COLE exhibits extremely good work in platinotype, and for this he has gained the silver medal with a set of architectural photographs of great merit. They have both vigour and detail, and are well printed. 482, by W. J. BYRNE, gains the bronze medal with a series of interiors.

In Class XVIII., Still Life, no award has been made; the pictures are poor.

Class XIX. has a series of fine interiors by JOHN STUART, for which a silver medal has been awarded. The bronze medal in this class has been withheld.

Class XX.: SNELL ANDERSON gains the silver medal for four carefully mounted and well executed studies. H. SYMONDS gains the bronze medal for yacht scenes. A picture of the "Mohawk" appears to us the best. The other pictures of his set show some spots on the prints, which, we think, must be on the negative.

T. N. ARMSTRONG exhibits a set of four pictures, but they are not up to the fine quality of his usual work. Mr. Armstrong can do better than this.

Class XXI., Seaside and Marine Hand-camera work, is interesting. J. W. WADE scores an easy victory, his pictures being far away ahead of the others both in variety and execution.

A. WATSON is awarded a bronze medal for some well-executed yacht scenes, but they lack variety.

JOHN MORRISON, jun., has some good seaside studies which show much care in selection.

J. C. OLIVER has been rather unfortunate in his selections. Some are good and others are bad.

W. D. WELLFORD exhibits some interesting regatta studies.

In Class XXII. the exhibit on the whole is poor. The silver medal has been withheld.

SNELL ANDERSON takes a bronze medal for his pictures, which are mounted with much taste.

RALPH H. ELDER obtains an extra bronze medal for his views on the Swiss and Italian lakes. They are rather black in tone. As a whole the hand-camera work in this class is disappointing.

Mr. E. L. Brown, of 13, Blackwood Crescent, Edinburgh, would like to communicate with "Pepo."

How I Started a Successful Society.

By A PROVINCIAL.

(Continued from page 180).

IN my last contribution I recounted what preliminary steps were taken up to the eve of the public meeting, which I had convened by letter and by advertisement, of those who favoured the project. I need hardly say that in view of such meeting some previous arrangement of the order of business to be there transacted had to be made; this task naturally falling upon the convener. I therefore sketched out on paper a certain course of procedure which I thought it would be well for the meeting to follow. The agenda which was drawn up was very much as follows:—

Election of Chairman, proposed by —, seconded by —. Explanatory statement by the convener of the meeting. Call on Mr. — to propose the first resolution; seconded by Mr. —, "That a photographic society be formed for our town and district." Discussion supported by —, —. Put resolution to meeting.

Second resolution: Proposed by Mr. —, seconded by Mr. —, "That a *pro tem.* committee be formed, to arrange for election of officers, to engage a temporary meeting room, and to draw up a code of rules."

Third resolution: "That the aforesaid committee be composed of the convener, —, gentlemen nominated by him, and a like number selected by the meeting."

Such was the skeleton order of the day which I pre-arranged.

The names of the proposers and seconders of the various resolutions were not, in the majority of instances, filled in beforehand, for the very sufficient reason that there existed a strong disinclination on the part of individuals to undergo the oft-times trying ordeal of "public speaking." I very soon saw that if I persisted in pressing my supporters it would result in some of them absenting themselves rather than undertake to make a few remarks *coram nobis*. But once at the meeting these scruples were in nearly every case overcome, and although in all instances ciceronian eloquence did not ensue, still the required sponsors were obtained, and commendable, I may say valuable, brevity characterised what they had to say.

But to hark back a little. Having as far as possible prepared for those contingencies which were likely to arise, behold me on the fateful night making my way to the trysting place. This was a centrally situated room capable of holding some forty or fifty people; a considerably larger apartment was obtainable, but it was considered, and rightly I think, far better to risk having to crowd into a small place than run the chance of being lost in a huge hall. It was, of course, all but impossible to predict upon what scale the attendance would be. I well remember a case in point where a hall capable of seating nearly one thousand persons was hired. The attraction of the evening was apparently such as to command a large measure of support; in the event, besides those on the platform, only one solitary human being could be seen amongst the "beggary array" of empty benches, and this, alas! was an ancient dame who, it was conjectured, came in to have a rest! This is no "chestnut," but really happened in this town of which I am writing, not five years ago.

On my arrival at the rendezvous it wanted half an hour to the advertised time of commencement, which had been fixed for eight o'clock; and I will say that a very dismal and stupendously long half hour it was which I passed. When I got there the room was not merely empty of everything but table and chairs, but was "void and empty" of every scrap of fire, while "a nipping and an eager air," as Hamlet calls it, chilled body and mind alike; at 7.45 only two gentlemen had arrived, and it needed an expenditure of full five minutes to produce another. At this rate I calculated that the room would not be even half full by 10 o'clock. A nervous but not unnatural apprehension seized on me that most of my supporters had at the eleventh hour turned tail, or else that in writing them I had unwittingly sent them the wrong date. Fortunately, I had some necessary details to settle with the first comers, and in the meantime others put in an appearance, so that by 8 o'clock we had some thirty present. A further quarter of an hour elapsed, during which I was busy in filling up the blank spaces in my agenda, and when I rose to initiate the proceedings by reading the notice of convention, there were, I suppose, between forty and fifty auditors; while later

on, new comers further increasing the attendance, the room became thoroughly well filled.

The notice having been read, I called on the meeting to choose a chairman; to this they responded by electing me to that position. Of course, had I known of anyone capable of filling this post with credit to himself, and advantage to the proceedings, I should have much preferred, and would have suggested that he took this duty upon him, for I should have thereby enjoyed a better chance of stating my case with completeness and vigour. As it happened, my mind was to some extent pre-occupied by comparatively trivial details.

In the light of my experience as above, I strongly counsel that on all such occasions there should be as much division of labour as is compatible with circumstances.

I have noticed that as a class disciples of photography do not greatly care for listening to long-drawn-out talk; they delight in demonstrations, and revel in results, but much speechifying enraptures them not. This is so far fortunate as they do not often get the chance of hearing anyone who can "hold forth" fluently on their pet hobby. For myself, "I am no orator as Brutus is," not even as is Mark Anthony (who, by the way, is hardly so great an antithesis to the former as he would make out); in point of fact I cannot orate at all. The foregoing seeming digression is not written in false humility, but in order that no one who reads these lines may hesitate to launch a society because words will not pour from his lips like the water from Lodore.

This is not the place to discuss elocution; at the same time it will not be amiss for me to state that the system I adopted on this particular evening to enable me to explain myself was simply to write out in proper order the headings of the subjects to be touched upon, which is what I advise others similarly circumstanced to do. In addition, let me enjoin upon novices to keep cool, and talk slowly, and naturally; remember you have certain things to say, and *insist on saying them*; as O. Wendell Holmes aptly remarks in "The Autocrat" (or is it "The Professor"?), speaking is like firing at a target with a jet of water issuing from a hose pipe; you can't help hitting the mark if you will only give yourself time. These hints are for the entirely inexperienced; the old hand will have his own peculiar method of ramming his opinions into the ears of his listeners.

Reverting more immediately to our main subject; in the opening remarks which I proceeded to make, I dwelt on the point, that in spite of the large population of our town, we, unlike many similar communities, did not enjoy the manifold advantages which an active and independent photographic association is able to bestow. I showed that much smaller towns and districts were in a position to support societies which were doing good work in their respective localities; and next proceeded to refer to the facilities and stimuli which the proposed society would endeavour to supply. These included such items as the absolute acquisition of meeting rooms, in contradistinction to the intermittent use of rooms occasionally hired for the evening; lectures and demonstrations by members and others, lantern shows, field excursions, exhibitions of prints and of apparatus in the societies' apartments, public exhibitions of members' works in local galleries or halls; the provision of a properly fitted up dark-room, a technical library, facilities for enlarging by artificial and by daylight, and eventually a studio with the usual conveniences for portraiture. I took care to emphasise that, valuable as all the above and similar aids and helps were, they did not compare with the indirect benefits which the society would bestow on its members: in this category are included the opportunities of meeting for conversation, and comparing notes; of arranging informal excursions, and of making many acquaintances amongst those who form a fellowship of kindred spirits: nor did I forget to remind my audience of the value such a society is to that large and increasing body of beginners who can always rely upon their, may be trivial, but to them inscrutable sources of failure being put right with delightful ease by more experienced workers.

Next I read out a selection from the letters of support and good wishes which had been sent to me. Amongst the many received, there existed considerable diversity of idea; I therefore arranged that those which I selected should follow each other with some regard to contrast; for instance, the contiguity of a communication from a gentleman who with a fervid and glowing imagination predicted a most improbably brilliant future for the unborn society, with another missive from a supporter who did not believe there were twelve amateurs in the town who would work together for six weeks, was conducive of audible smiles. No

audience is so serious as not to be able, under provocation, to laugh; nor is any cause too powerful to disdain the advantage due to a pervading feeling of good humour.

Chief amongst various other promises of help, it was my good fortune to be able to announce that the Editor of the *AMATEUR PHOTOGRAPHER* offered for competition between our members, the handsome medals which are so much sought after. This substantial and spontaneous assistance (for it was *not* the outcome of solicitation) was, I need not say, the signal for prolonged applause. I believe that subsequent to the above occasion our worthy Editor, for doubtlessly good and sufficient reasons, made a hard and fast rule not to place medals at the disposal of the executive local societies; this I mention lest he otherwise be inundated with letters of application from energetic hon. secretaries, who would be doomed to disappointment.

Not to further weary the reader with other details, which may be filled in from the imagination, I concluded my address by reading a complete list (in alphabetical order; do not attempt any other classification) of those gentlemen who agreed to join the proposed association; this included some three dozen "greatly daring" pioneers—not a mighty number truly, but sufficient to produce a feeling of agreeable surprise in the minds of my listeners. With a few words of peroration, designed to if possible produce a round of applause, I wound up by calling on Mr. — to move the resolution standing in his name, viz., "That a photographic society be formed for our town and district." This the said gentleman proceeded to do in "a few well-chosen words;" while the seconder was not any more lavish in the language which he employed. In my estimation the proposer and seconder of this the crucial resolution should be selected firstly because of their social position and *local* influence, secondly for their photographic standing, and lastly for their fluency of speech.

In support of the resolution, various individuals made remarks, some suitable, others unsuitable to the occasion; the consensus of opinion being, however, warmly in favour of the proposition. The fount of eloquence having in the fulness of time run dry, I proceeded to put the resolution to the meeting, and when, a few seconds afterwards, it was my great pleasure to congratulate the assemblage that by their unanimous vote the society was constituted, their acclamation was loud, long, and hearty; as if

"Some novel power
Sprang up for ever at a touch,
And hope could never hope too much."

The cheering having subsided, it became necessary to give effect to the above, for which purpose a *pro tem.* committee was formed whose duties and powers were, after discussion, defined to be—(1) To make temporary arrangements for meeting rooms and for meetings; (2) To draw up a code of rules and regulations; (3) Make necessary and suitable preparations for the election of officers forming the executive; (4) Enrol members and receive subscriptions; (5) Expend such money as may be requisite for the above purposes. This committee was constituted as already explained in agenda. See *ante*.

To give these gentlemen time to do their work properly, the meeting was adjourned for three weeks, then to meet at the same time and place, to receive the *pro tem.* committee's report, and consider same; and also to elect a permanent committee and other officers. Before separating, the meeting passed a resolution fixing the amount of the subscription, which in our case is at present half-a-guinea.

Thus then was the society successfully launched; but we had yet to rig her out with rules, and man her with a crew of A.B.'s; besides appoint a commander to pilot her through those dangerous straits upon one side of which stands the Scylla of Squander, and on the other yawns the Charybdis of Decadence.

In the next portion it will be my pleasant task to describe what we did to carry out the above programme. In subsequent articles I am glad to think that I shall to a large extent be able in the place of the singular to substitute the first person plural, which will not only relieve me of apparent egotism, but will only do bare justice to those who so ably helped me at this juncture to not only fit out, but bring the newly-launched ship safe into port, in spite of squalls, fogs, collisions, and other perils.

If I bound myself strictly within the limits of the title at the head of these notes, they ought, may be, to end at the very moment the society glided into the waters of life; but although "tis not in the bond," I think it would be unfair to leave the subject without explaining how the society obtained not merely a start, but what is known as "a fair start."

Societies' Meetings.

Belfast.—On the 8th inst. the usual monthly meeting was held, Mr. W. C. Pollock presiding. Prints sent in for the July and August competitions were laid on the table for inspection; having been sent to two of our well-known English photographers to make the awards, their criticisms were appended to each print, thus helping to make the examination instructive and interesting. A marked improvement is being observed in the quality of the work sent in, which embraces a variety of classes, many exhibiting careful study in composition and pictorial effects, all tending to show the great interest taken in the competition and who shall have the honour of being first holder of the Club championship at end of season. The awards for July are as follows: T. B. Scott, first place, with a beautiful print entitled "Sunset," the sun behind a heavy cloud, showing a beautiful fringe of light around the sky, and across the reflection on the water a sailing-boat is seen entering the harbour, adding greatly to the effect. Second place was obtained by J. McCleery, with a yachting study, entitled "Before the Start," showing two 40-tonners beating up to the mark boat, good cloud effects materially helping the picture. Third place, T. F. Bell, with a good view of the picturesque village of Glencoe, Messrs. Hutchinson and Hamilton also obtaining marks. In the August competition James Pollock carried off first honours with a very fine specimen of landscape work, "In the Demense of Clandeboyne," the residence of the Marquis of Dufferin and Ava; in this print great skill was shown in printing, cloud effects being added in, and the reflections of same in the river beautifully rendered, being a distinct operation. Second place was again obtained by J. McCleery, with another yachting study, showing the 25-ton lugger "Redstart" going through the water at great speed, the bows being almost buried in the bow-sprit. For third place T. B. Scott had a pretty view of the famous village of Glencoe; Messrs. Pim and Bell also obtained marks. The lantern-slide competitions commence next month, when three slides have to be sent in by each competitor. This, in addition to the other displays and papers on summer holiday tours with the camera, having been promised by several members, a very interesting session is being looked forward to.

Birkenhead.—The usual monthly meeting of this association was held on the 10th inst., the President, Mr. G. E. Thompson, occupying the chair. The Hon. Librarian, Mr. J. A. Forrest, read the first of a series of papers on "Photography; its dawn in 1839 to its development in 1891; its value as a historic record, and its educational powers in advancing human knowledge in scientific research, illustrated with specimens of progress at various periods." Mr. Forrest having been an enthusiastic photographer for over half a century, he is very capable of treating this interesting subject; few processes have come and gone that have not been carefully and practically studied by him, and it is the result of his own personal experience that forms the series of papers which he intends continuing until his memory is exhausted. The paper of Thursday evening was greatly enhanced by the exhibition of old work, of which Mr. Forrest has a valuable and extensive collection; among works of interest may be mentioned Fox Talbot's "Pencil of Nature," daguerreotypes, pictures by Mudd, Osmond R. Green, and others, and large glass positives by Mr. Joseph Lee, of Liverpool, the prince of positive makers in their day; the high state of preservation noticeable in most of these exhibits was generally commented upon. The President then followed with a highly amusing sketch entitled "Mrs. Brown among French Chateaux," which was the result of his observations during a short tour which only terminated on the Saturday previous to the meeting; seeing that Mr. Thompson was so fresh from the scene of his subjects, his amusing and interesting paper was read with a zest that materially enhanced its value. For the next meeting the first lantern evening of the winter session is being arranged.

Bournemouth.—The excursion of the above section on Saturday afternoon to Christchurch was a most satisfactory outing. The party was led by the Vice-President, those present being about fifteen in number, several of whom were ladies. Some good views were taken of the river, the Priory Church from different positions, and various scenes in the vicinity; the result being that some very effective photographs were secured. We learn that, for next Saturday (19th inst.) an excursion to Wimborne has been arranged, where, by kind permission of Lord Wimborne, the party will be able to take photographs in the beautiful grounds of Canford Manor.

Brechin.—The annual general meeting was held on the 9th inst., the President, Wm. Shaw Adamson, jun., of Careston, in the chair. Six new ordinary members were admitted, viz., Rev. T. L. Ritchie, Messrs. G. T. Robertson, B.Sc., A.M.I.C.E., G. M. Scott, J. Buchanan, Innes, and Smith. The usual reports of the Secretary, Treasurer, and Curator were read and adopted, and on the motion of the President, these officials were thanked for their services. The report of the Sub-Committee appointed to revise the rules was adopted, and the new rules agreed to. The night of meeting has been altered to the

third Wednesday of the month. The office-bearers for the coming year were elected as follows: President, Wm. Shaw Adamson, jun., of Careston; Vice-Presidents, G. Mackie, A.Ph.S., and H. Braid; Secretary, James D. Ross (6, High Street, Brechin, N.B.); Treasurer, Mr. Innes; Curator, J. C. Middleton; Committee, Messrs. Ferguson, Buchanan, and Dakers.

Brixton and Clapham.—The ordinary meeting of the club was held on the 3rd inst., a fair number of members attending. The minutes of the previous meeting having been read, Dr. Reynolds, the Vice-President of the Club, was called upon for his demonstration on "Platinotype Printing." He commenced by giving a short description of the paper itself, its mode of production, and its various means of development. He then went on to develop some half-a-dozen prints which he knew to be (1) under-exposed, (2) correctly exposed, and (3) over-exposed, showing in the case of (1) the temperature of the developer should be increased, and in the case of (3) diminished, for by means of this a print may very frequently be saved. He observed that he found the exposure for platinotype somewhat shorter than for silver, other conditions being equal; and he considered that the temperature for a correctly exposed print should be from 130 degs. to 150 degs. Fahr. The question was raised as to the latitude allowed in exposure, and the lecturer said that he did not find this to be very great, but that with a little practice one soon managed to be fairly accurate. As to the question of negative required, he said he must be a good and plucky one to give the best platinotype print, and that very thin negatives were of little or no use for this method of printing. The next meeting will be held on Thursday, October 1st, commencing the winter programme. Every information concerning the club will be gladly given by the Hon. Secs., F. W. Levett, 74, Geneva Road, and R. G. F. Hudson, 37, Villa Road, Brixton, S.W.

Croydon.—On the 14th inst. the President (Mr. H. Maclean, F.G.S.) in the chair, the following gentlemen were elected members:—Wilfrid C. Phillips and G. H. Linfoot. The President announced that, in conformity with the decision of the council, this would be the last ordinary meeting held in their present rooms. He was, however, glad to say that the executive had succeeded in obtaining rooms which were in several respects even more desirable than the old ones, two points, amongst many others, in their favour being that the rent is only half what has hitherto been paid, and the dark-room when finished will be also available for enlarging. The new rooms are situated at 56, George Street, and the first ordinary meeting will be held there on 12th October, when the winter session will begin. The subject for the evening in question will be "Flashlight Photography," illustrated by taking portraits of members present. Members are requested to bring with them flashlight lamps and prints or apparatus in illustration of the subject. The main attraction of the evening was a collection of prints lent by the Editor of the AMATEUR PHOTOGRAPHER, which afforded much subject for admiration, qualified by criticism. In addition, Mr. C. E. Whitaker exhibited a collection of views and genre studies taken on whole-plate in Yorkshire. The prints were characterised by sound and careful technique, and an attention to minutiae which others would do well to imitate. Consequent on the burst of sunshine, members have been very active in the field during the past week. Small parties have visited Camden, Crowborough, Godstone, Dorking, and Oxted.

Hackney.—The ordinary meeting was held on the 10th inst., Mr. Arthur Dean presiding. Work was shown by several members. The Hon. Secretary then gave an illustrated lantern lecture on "A Holiday in the Isle of Man and Ireland, with a Hand-camera." Several of the views shown were very fair, and illustrated very well the powers of a hand-camera. Mr. Dean showed numerous views of Ireland, and Mr. Day gave a very interesting account of the geological formation of the rocks at the Giant's Causeway.

Halifax.—At ordinary meeting on the 7th inst., Mr. Ed. J. Walker in the chair, Mr. Thomas Illingworth (Vice-President of the Club) gave a practical demonstration of the process of "development" upon a series of plates having had different exposures varying from 10 to 15, 20, 25, 30, 40, 50, and 60 seconds, the resulting negatives in every case being excellent and were highly appreciated by all present.

Holborn.—On Sept. 11th, Mr. T. O. Dear, Vice-President, in the chair, Mr. Howson read a paper on a new printing-out paper (gelatino-chloride). Two toning baths were recommended; the first consisted of water, 16 oz.; sulphocyanide of ammonium, 75 grains; chloride of gold, $2\frac{1}{2}$ grains. The second, a combined toning and fixing bath, was as follows:—Water, 20 oz.; hypo, 5 oz.; citric acid, 60 grains; acetate of lead, 60 grains; sulphocyanide of ammonium, 240 grains; chloride of gold, 3 grains. The mode of working and final operations were similar to those of the gelatino-chloride papers now on the market. With regard to the use of an alum bath, he said that the special nature of the gelatine rendered it, in most cases, unnecessary. Mr. Howson toned some prints on the new paper, which, together with a number of finished prints, showed to a considerable extent its advantages. On Saturday fourteen members and

friends attended the Keston outing. Leaving Hayes Station, and going across the magnificent common, they reached Keston, where an enjoyable day was terminated by tea at the "Fox."

Ipswich.—The September excursion of this Society took place on the 12th inst. The places chosen for "subjects" were Framlingham and the old Hall at Parham. Taking advantage of the arrangements of the Great Eastern Railway for pleasure parties, the members went by train to Framlingham, where, under the able and experienced guidance of the President, Mr. J. D. Piper, and Mr. A. S. Fiske, of Woodbridge, to both of whom every inch of the ground is well known, a number of beautiful, and it is hoped, successful pictures were taken. The party then adjourned to the "Crown," where Mr. Sewell provided lunch. After lunch they proceeded to Parham, and a number of photographs were taken of the old Hall, Mr. Gray having given permission to the Society to photograph there. The old Hall is a very fine example of the "moated grange," and proved to be well worth a visit. From Parham the party returned to Ipswich by train, after what, owing to the beauty of the places visited and the superb weather, was undoubtedly the excursion of the season.

Kendal.—At the meeting held on the 9th inst., Mr. Frank Wilson, J.P., presided, in the unavoidable absence of the Chairman. The annual report was unanimously adopted. The following officers were elected for the ensuing year: Chairman, Mr. Isaac Braithwaite; Secretary, Mr. Charles E. Greenall; Treasurer, Mr. F. P. Heath; Committee, Messrs. Frank Wilson and Samuel Rhodes, the Chairman, Secretary, and Treasurer of the Section, and the Secretary of the Institution (Mr. Severs). Arrangements for the evening meetings and details of the lantern meeting (February) were made, the new rules adopted, etc. Mr. Crowe, C.E., was elected a member of the section. Through the kindness of the Editor of the AMATEUR PHOTOGRAPHER, a number of "Inland scenery" prints were exhibited.

Liverpool.—The seventh ordinary meeting was held on the 9th inst. Mr. C. F. Webb (President) occupied the chair. The arrangements for the social evening in October having been discussed, the subject of the Lantern Mission came up again, but it was decided to adhere to a previous resolution, "That we give lantern entertainments to Liverpool charities during the winter months," independently of the Mission, for the present. It was also resolved that the young men under eighteen attending the Liverpool College be admitted as members at a reduced subscription of 2s. 6d. per annum. Mr. Harry Handley then gave a practical demonstration of the hot-bath platinotype process by developing several prints and explaining how the prints from under-exposed negatives had to be treated both in printing and varying the heat of the bath. He also brought some mounted prints, and other members brought stereoscopic slides and silver prints, which were handed round and commented upon.

North Middlesex.—On the 14th inst., Mr. J. Stewart in the chair Mr. J. Howson demonstrated the working of Alpha paper, and passed round a number of prints. These were admired for their brilliancy, the softness of the half-tone, and the transparency of the shadows, as also for the vast range of colour. Mr. Howson pointed out that an amateur frequently had little time for daylight printing; this process would enable him to obtain warm tones when they would otherwise be impracticable. It had been said that bromide printing was the salvation of a poor negative. Alpha was, however, suitable equally for the dense as the thin negative, as instanced by two of the prints he showed, one being in platinotype and the other on Alpha. The points to be observed were to follow the instructions closely, and to expose always for the same time, at the same distance from a uniform light, when uniform results were desired; six inches from a bat's-wing burner was the distance recommended for a small negative. A greater distance would be necessary with a large negative to equalise the light. From two to three minutes would be necessary for a moderately dense negative. To obtain brilliant prints from a weak flat negative, develop deeply with half cold and half new developer, and allow to remain in the clearing bath till the high lights were sufficiently reduced. The red tones obtained by a prolonged exposure would be retained after fixation, even if the prints were not toned, but slight toning was generally desirable even for the warmest tones. It should be borne in mind that if the tones obtained were too warm, the prints could be toned to colder shade even after they had been dried and stored for any length of time. Mr. Howson then developed and toned a number of prints, showing the range of colour attainable from equal exposures and development. The usual competition of prints of views at the society's field-days was held. Mr. Marchant received the vote of merit for Roydon, Mr. Gregory for Loughton, Mr. Staveley for Edgware, and the Secretary for Kew. Prints on matt-surface paper by Obernetter, a very rough surface paper by the Blackfriars Sensitising Co. were much liked. Mr. H. Smith reported that he had found Mr. Barry's printing meter invaluable in printing in clouds in platinotype. Mr. Taylor showed prints from the negatives he made when demonstrating development at the last meeting, making clear the points he had dwelt upon in his address. One new member was elected

and three nominated. The next meeting was announced for the 28th inst.; Mr. C. Beadle will be in the chair, the subject, "Photo-Mechanical Printing," by the Americo-European Co. Visitors will be welcome.

Omega.—To inaugurate the autumn and winter seasons, the above club had an exhibition of work on the 10th inst., when over 150 photographs and enlargements were submitted for inspection to the members' friends. In the evening a conversazione and smoking concert was held, when a long and interesting programme of music and songs was gone through, preceded by a short comedieta entitled "A Happy Pair."

Peterboro'.—The monthly meeting was held on the 7th inst., to determine the best photographs of three views near Peterboro'. There was a good attendance, eleven members competed, and the balloting showed that Messrs. Amies, Nicholls, and Perkins were respectively first, second, and third in order of merit.

Putney.—On the 10th inst. a special meeting was held, the Rev. L. Macdonald in the chair, to consider sundry alterations in the Society's policy and rules. A motion proposed by Mr. Barrett, seconded by Mr. Martin, that the word "amateur" be struck out of the Society's name, was unanimously carried, as was also a motion proposed by Mr. Zachariasen, seconded by Mr. Gorin, to render the rule re balloting less exclusive. For the future, the Society's year shall end in April and begin in May, in which month the elections will take place. The financial year to remain as at present, January to December. The members of the Council having tendered their resignation, elections to fill the vacancies will be at once proceeded with. Winter session begins October 14th—"Illustrated Journalism," by Mr. T. C. Hepworth.

South London.—At the last meeting of this Society, Mr. Mark Boxall in the chair, the Secretary announced that, owing to absence from London, Mr. Edwards was unable to give his promised paper on "Negative Enlarging and Copying." Mr. Crouch, of Barbican, was present, and brought with him a hand-camera of his own construction. He explained the working of it to the members, and showed results from exposures. It is a handy and compact instrument well got up, holding two dozen plates when loaded. Some practical information was given to users of hand-cameras, and in addition Mr. Crouch volunteered to fill the gap caused by the absence of the President with some practical information about lenses. As a maker of high-class lenses for microscopic work, Mr. Crouch enjoys a high reputation, and the particulars given were exceedingly valuable. The question of re-blackening diaphragm stops that

had become bright by usage was mentioned, and a formula given for this purpose. Mr. Slater, of Southampton Street, Camberwell, also showed samples of some new lenses he has had made for him.

Stockton.—The usual monthly meeting was held on the 9th inst., Dr. Stainthorpe, the President, in the chair. After the ordinary business was got through, came the monthly competition, "Enlargements" being the subject. Dr. Stainthorpe took the honours. It was also decided to hold the annual conversazione and exhibition of members' work on Friday, December 11th, to be followed by dancing.

QUARTERLY EXAMINATIONS IN PHOTOGRAPHY.

QUESTIONS.

(For Questions 1, 2, and 3—latest day for Answers, Sept. 28th—see last week's issue.)

- 1.—What is the angle included by a lens of 8½ in. focus on a quarter-plate, half-plate, and whole-plate? How do you find this out?
- 2.—Forward a bromide print from the negative obtained in question 2, and develop the print with eikonogen. The prints will be tested for the presence of hypo.
- 3.—Describe the different methods of emulsion making, and state the most suitable for an amateur.

Latest Day for Answers, October 5th.

RULES.

1. Answers must be received on the date stated each week in the AMATEUR PHOTOGRAPHER.
 2. All answers must be preceded by the question, and should be written on one side of the paper only, and each answer must be on a separate sheet or sheets.
 3. A *nom de plume* may be used, and must follow every answer, and be affixed to every specimen of practical work.
 4. Answers are not limited in length, but preference will be given to concise answers without unnecessary amplification.
 5. Those desirous of competing must apply to have their names entered. As these examinations are intended to encourage the study of the theory and practice of photography, authorities upon photographic matters and contributors to the photographic journals will not be allowed to compete.
- NOTE.—No information of any kind will be given to competitors, and nothing but the answers must be included for the examiners. All other communications must be addressed to the Editor.
- Marks will be given for all answers, and, when possible, the three best answers will be published. The answers will not be published till the week following receipt of the same, and the examiners will criticise each answer sent in, and when no satisfactory answer is received, will supply one. Three prizes will be awarded at the end of each quarter. (Full syllabus on application.)
- All communications to be addressed to—"EXAMINATION DEPARTMENT," AMATEUR PHOTOGRAPHER, 1, CREED LANE, LONDON, E.C.

To Correspondents.

All communications for these columns are to be addressed to **The Editor, "Amateur Photographer," 1, Creed Lane, Ludgate Hill, London, E.C.**

RULES.

1. Write clearly and distinctly on one side of the paper only.
2. Write each Query or Answer on a separate sheet of paper.
3. Write the name and address legibly on the back of each communication, and sign all Queries and Answers with name or *nom de plume*.
4. All matters for these columns MUST be received by TUESDAY MORNING'S POST.
5. The Editor does not undertake to answer questions by post.
6. In answering Queries, correspondents are requested to mention, in every instance, the number and full title of the query referred to.

QUERIES.

5080. **Mounts.**—Can any amateur tell me where I can get mounts with designs on the back? I have tried several places, but have not been successful.—S. L. W.
5031. **Reducer.**—Can any reader tell me of a good formula for reducing over-exposed negatives?—S. L. W.
5032. **Griffiths' Hand-Camera.**—Can any reader tell me if the Griffiths' hand-camera will take first-class photographs for the money?—S. L. W.
5033. **Exposure, Interior.**—What should be the exposure for the interior of a church, fairly lighted, at 3 p.m.; plate, Edwards' Isochromatic instantaneous; lens, Lancaster's wide-angle Rectigraph; stop, f/32?—A. P. G. D.
5034. **Companion.**—Is there any gentleman on the south side of Edinburgh, Newington district, who would care to go out with another amateur for photographing, etc.? I will communicate to any

address given in answer to this question.—COMPANION IN ARMS.

5035. **Photography in Cemetery.**—I shall be much obliged to any reader who can inform me if any person may take photographs in a cemetery, not altogether graves, but trees, views, etc., without being interrupted by the cemetery keepers and without having a licence. I managed to get in a cemetery in London with my camera, and having taken one view I was about to take another, when I was stopped. Is this right?—PETENDUM JUVU.

5036. **View Album.**—Can any reader of the AMATEUR PHOTOGRAPHER tell me where I can obtain albums of the ordinary form but with apertures large enough to take 6½ in. by 4½ in. mounts, instead of the cabinet size? As I want these for views, the openings must be rectangular.—A. J. GARWOOD.

5037. **Printers.**—Can any one kindly inform me how to work argentic gelatino-bromide paper for enlargements and direct printing?—MAGOOT.

5038. **Chloride of Gold.**—Will someone kindly tell me how to make chloride of gold?—EXPERIMENTER.

5039. **Lens for Hand-Camera.**—I am making a fixed-focus camera to take plates 3½ by 3½. Will some kind reader please inform me where I can procure a lens for same unmounted, and the probable price of same? The reason I want it unmounted is that I wish to mount it in an improved mount.—J. A. WATSON.

5040. **Camunilux.**—Will someone who has had experience with the Camunilux, price 21s., sold by the American Camera Company, London, kindly inform me if it is a reliable apparatus for the purposes claimed for it, viz., half-plate camera, magic lantern, and photo-enlarging apparatus? Any information as to its qualities will oblige?—W. F. G.

5041. **View Finder, to make.**—I should feel obliged if some kind reader could give me instructions how to make a simple kind of view-finder, suitable for both vertical and horizontal photographs, required for a detective camera, also how it should be attached to camera? Any information will be thankfully received.—W. F. G.

5042. **Broken Negative.**—I have had the misfortune to break a negative in two pieces. If any kind reader would tell me how I can print from it without showing much of the crack, I shall be greatly obliged?—AMATEUR.

5043. **Colouring Enlargements.**—Will someone of your correspondents tell me the best method of preparing bromide enlargements for oil colouring, i.e., the most suitable size to use for the purpose?—O. P. Q.

5044. **Enlarging.**—Will Lancaster's quarter-plate Instantograph camera and lens do for enlarging to

whole-plate with their Multum in Parvo enlarging camera. Will it be necessary to bore the front of Multum in Parvo to admit Instantograph lens? I suppose the makers would do this for a trifling extra cost? Answers to these questions will greatly oblige?—INSTANTOGRAPH.

5045. **Toning Solution.**—I made up the toning bath recommended by Mr. Ellis in AMATEUR PHOTOGRAPHER July 31st, only making up half quantity however, as I had previously mixed 15 gr. gold to 15 drms. distilled water, and used a drim. or two of it. I put 7½ drms. gold solution, ½ oz. acetate soda, ½ drms. bicarbonate soda into bottle, and added 7½ drms. warm distilled water. As the bottle was not coloured I wrapped it securely in brown paper and put it in dark-room. I am perfectly sure no light got to it. Two days after on opening it to tone I found gold precipitated. Will someone kindly explain cause, remedy, if any?—INSTANTOGRAPH.

5046. **Hand-Camera.**—Will someone recommend a really good serviceable hand-camera? Must be able to be carried on a bicycle. Price not so much an object, as long as the machine is worth the money.—BRETLOW.

5047. **Fixing Bath.**—On page 68 of the "Amateur Photographers' Annual" the following fixing bath is recommended for plates:—

Water	...	...	1 quart
Sulphate of sodium crystals	...	...	4 oz.
After being dissolved, add			
Sulphuric acid	...	...	3 oz.
Chromic acid, powdered	...	...	3 "
Dissolve this and pour into a solution of			
Hyposulphite of soda	...	...	2 lbs.
Water	...	...	3 quarts

Has this any special recommendations for bromide prints? Are there any modifications to improve it for this work? About how long would Ilford paper (both rapid and slow) take to fix?—F. BERNARD-SMITH.

5048. **Adhesive Mounts.**—Can anyone tell me where these can now be obtained? H. Senior and Blackfrirs Co. seem to have given up making them? Do they injure prints?—STICKER IN.

QUERIES UNANSWERED.

Sept. 4.—No. 4994.
" 11.—Nos. 5021, 5022, 5026.

ANSWERS.

4991. **Retouching.**—I should like to give my experience for the benefit of "E. L. B." I do large heads, so

require to touch up a good deal. I did not wish to buy a retouching desk, so I adopted the following plan: After putting on the medium, I place my negative in the printing frame, fasten the catches but without putting the back in. I then prop up the frame against the window, I then throw my focussing cloth over my head and over the top of the frame exactly as if I were focussing through the camera. The light then comes only through the negative. This method would not suit if one had to do a great deal of retouching, for I find that it necessitates standing at the window, but for the amount done by an amateur it answers perfectly.—A LADY AMATEUR.

4996. **Montreal and New York, Customs at.**—In answer to "Nigel's" query, I think he will find the officials at the above-named places will insist on opening all packages, including dry plates.—W. H. ELLIS.

5000. **Pinholes in Negatives.**—This complaint is very often announced in these columns. There are one or two remedies for it, viz.: (1) Get a small ball of cotton wool, soak it well in water, and well rub the film all over with it just before developing, or if you are using a quick developer, soak the plate in water before putting it in the developer and brush the plate well with a camel-hair brush while in the water. (2) If you are using a slow developer, brush the plate as soon as it is put in the developer for a few minutes; it is also a good remedy to blow on the negative when putting them in the dark slides and before putting them in the developer. I never have pinholes. I use the Barnet plates. When I used the Ilford I very often used to have pinholes. I think it is due to the paper the Ilford plates are wrapped up in. There is, I think, some rough parts on each piece of paper.—W. H. ELLIS.

5001. **Printing Processes.**—In reply to "Niepce," for simplicity and beauty of results nothing can compare with a paper sold by Mr. Hardcastle, of 71, East Street, Brighton, as "Hardcastle's platinum paper." It merely requires printing to the required depth, and is fixed in a dilute solution of hydrochloric acid. Washing in two or three changes of water completes the labour necessary to make a finished and permanent picture.—BLACK AND WHITE.

5006. **Fixing.**—I have never used Barnet plates, but I should imagine your fixing bath has become a saturated solution. How many plates have you fixed? Try fresh hypo 5 ozs. to 20 water.—COFFIC.

5007. **Film Negatives.**—Place them between two sheets of thick cardboard in an envelope, separating the films with sheets of pure tissue paper as sent out by the makers. The whole should be kept under slight pressure, and the envelope may have particulars of its contents inscribed.—THE SMITH.

5008. **Snap-Shot Developer.**—The pyro-ammonia formula sent out with the Paget plates is the best you can have for them. In fact, I always use it for every brand of plate. It works splendidly with the plates themselves, and also with the Ilford and Thomas's. For instantaneous exposures take equal parts of each. If you use it with the Ilford plates, you will have to add 1 gr. of bromide per ounce of developer extra, as the formula contains very little of it.—CARBONATE.

5008. **Snap-Shot Developer.**—Make up 10 per cent. solutions. I think Thomas's formula best, and work out the amount of each component of the developer to one ounce. According to Pagot and Ilford formulae, supposing Ilford be 3 gr. pyro to the oz. of mixed developer, you simply use 30 minims of the 10 per cent. solution. If you are dealing with a Pagot and they require 4 gr. pyro to the oz., then use 40 minims, and so on with the ammonia and bromide. I do not know the respective formulae, as I always use Thomas's plates, but that is the system to work upon, as the same stock solutions can then be used for both, or, in fact, for a dozen different makes.—ARGAURUM.

5009. **Photographing Oil Painting.**—I do not think you will be able to do anything until you have it unframed, as it is almost impossible to shade off reflections. You do not say anything about the light, so I cannot tell you what exposure is needed. You can get some idea of the exposure from any note-book of exposure. You must slightly under-expose and develop with a developer strong in pyro and bromide, as what you want in a photograph of this kind is contrast and density.—CARBONATE.

5010. **Ghost Negative.**—The ghost must only have half or one-third of the exposure given to the rest of the photograph. For instance, if you are taking a group, to which you are going to give an exposure of three seconds, first take the group without the ghost in it, giving an exposure of two seconds, then replace the cap, let the ghost go into the photograph and take off the cap for one second. Of course, you must take care that no one moves, and that the camera is not shaken.—CARBONATE.

5011. **Damaged Negatives.**—I have never done so foolish a thing, but I should if they were mine, seeing the plates cannot be spoiled more than they are, try the effect of washing them by means of soaking in solutions of carbonate of soda or potash, bicarbonate of soda, borax, weak ammonia, or spirit, and then well washing in clean, and finally in distilled, water before developing. Printers' ink is a greasy substance, and one of the alkalis might saponify the grease, which is what prevents the developer from acting on the plate, and so enable it to be washed off. The experiment is worth trying, and if it fail, then try turpentine, ether, or chloroform, always taking care that whatever is

used to dissolve the grease must be carefully removed in its turn before developing, and that all must be done in the dark-room, and with as little exposure even to the red light as possible. Probably ether or chloroform would answer best, and would rapidly evaporate without after washing being required.—ARGAURUM.

5012. **Facile Hand-Camera.**—I have had two Faciles in use now for two seasons, and have every reason to be perfectly satisfied with them. One has a rapid rectilinear lens, the other a single. I prefer the former for figures, and the latter for landscape. The focus of the R.R. lens is too far off; but by winding on the rack I get the plate below further from the lens, I use the ordinary Britannia plates, and develop with hydroquinone.—S. P. J.

5012. **Facile Hand-Camera.**—I have used the Facile for the last two years. I consider it a perfect hand-camera. Mine is the R.R. lens, which gives perfect definition to the edges of the plate, and great sharpness all over the picture. I use Edwards's isochromatic plates, instantaneous, with stop f/11 (or, at seaside, f/16) in bright summer light (sunshine). I have been awarded the AMATEUR PHOTOGRAPHER bronze medal for lantern slides, made by contact from negatives taken in the Facile, of express trains going over 50 miles an hour. f/22 is too small a stop for hand-camera work, except for clouds.—A. P. G. D.

5013. **Enlarging Camera.**—In answer to "Economy," you will, I think, be able to find out all the particulars you require in my answer to query No. 4770 in the AMATEUR PHOTOGRAPHER on July 10th, 1891, or, if you like to write to me (address with Editor), I will give you all the information I possibly can to help you.—W. H. ELLIS.

5013. **Enlarging Camera.**—I have a Griffiths' enlarging camera which I find answer very well to enlarge from quarter or half plates up to 12 by 10. It is made of millboard. It can be used without darkening the room. It cost 30s. I have made scores of enlargements with it.—S. P. J.

5014. **Shutter and Tripod.**—The Thornton-Pickard shutter is, I think, about the best in the market; but I have not seen the latest out, described in the AMATEUR PHOTOGRAPHER a week or two ago. I have a very light bamboo stand with a ball-and-socket joint, I gave 7s. 6d. for, and find it very handy.—S. P. J.

5014. **Shutter and Tripod.**—Write to Messrs. W. Watson and Sons, of Holborn Viaduct, for particulars of their Acme tripods, and also order through them a Thornton-Pickard time shutter, mentioning that the latter is for India. The above goods are A1.—PEN.

5015. **Thin Negatives.**—Both green glass and tissue paper answer the same purpose, that of reducing the light, differing only in degree. The same result will be obtained by printing in weak diffused daylight, which should be an invariable rule with thin negatives. Why not intensify?—THE SMITH.

5015. **Thin Negatives.**—In reply to "Reginald," green glass is the most useful; tissue paper comes in handy also. I should prefer green glass.—W. H. ELLIS.

5016. **Ilford Plates.**—In answer to "Le Quesne," a plate which has been exposed to the best part of your knowledge correctly, generally should take between five and ten minutes to properly develop; it is impossible to state the exact figure, there being such a quantity of developers in the market. I generally reckon I can develop—that is develop, fix, and allow the plate five minutes in water—in twenty-five minutes, or six plates in one hour and ten minutes. Instantaneous plates take between ten and twenty minutes to develop. Both these plates, if not all, should be kept in the developer till the plate is almost black.—W. H. ELLIS.

5016. **Ilford Plates.**—Cannot agree altogether with the answer you mention, as the plate must be fogged to darken all over before sufficient density is obtained. Shorten your exposures or use a smaller stop; keep the plate covered during development, and test your developing room light.—THE SMITH.

5017. **Acetate.**—"Le Quesne" will find it is necessary to replenish the acetate as well as the gold. It should be added in exactly the same quantity in proportion to the bicarbonate of soda.—W. H. ELLIS.

5018. **Earl's Court, Club at.**—The West London Photographic Society meets at Hammersmith Broadway Lecture Hall, and is very convenient for Earl's Court; Honorary Secretary, Mr. H. Selby, 42, Lad-broke Grove Road, W. A new session commences next month.—EARL'S COURT.

5019. **Lantern Slides.**—If you mean reducing half-plate negatives to lantern-slide size, 3½ by 3½, you can do this with a lantern-slide camera, which consists of a long box to hold the negative at one end and the lantern plate at the other, with a lens between the two, to transfer the image. I have one myself which only cost a few pence (except the lens, which is a quarter-plate landscape), of which I will send particulars if you care to write.—A. J. SMITH, Free Library, Hindley, near Wigan.

5020. **Reducing Prints.**—You must do this before toning and fixing, by means of chloride of copper solution, or by using a platinum toning bath.—PEN.

5020. **Reducing Prints.**—In reply to this query, it is impossible to reduce the prints after having toned and fixed them. You might do a little good by putting the prints into a strong fixing bath, say 10 oz. of soda to 2 oz. of water.—W. H. ELLIS.

5027. **Porcelain.**—In answer to F. B. Smith's query, he will find a little strong black paint will answer his

purpose for the porcelain dishes, and some white paint for the vulcanite dishes, taking good care not to get fingers near the paint while developing.—W. H. ELLIS.

5027. **Porcelain.**—I always mark my dishes on the back with Aspinall's enamel.—CLIFFORD E. F. NASH.

5027. **Porcelain.**—Warm the end of the dish and rub on a film of wax. Scratch away the desired inscription and apply hydrofluoric acid with a paint brush. This is dangerous stuff, but the mark is indelible. Varnish soon chips off. Some other way must be found for vulcanite. Perhaps a series of notches filed on the edge would do.—EARL'S COURT.

5027. **Porcelain** dishes can be scratched with a saw file, and vulcanite dishes may have marks filed on the edges to be distinguishable by touch.—THE SMITH.

5028. **Fog.**—The most sensible thing F. B. Smith can do as a remedy is to take or send his lens to the manufacturers of the lens and ask them to put it right for him before exposing another plate.—W. H. ELLIS.

5028. **Fog.**—You can prevent it by getting a broad elastic band just large enough to fit the lens. Cut a small slit in it for the shank of the diaphragm to pass through.—CLIFFORD E. F. NASH.

5029. **Vignette.**—Get a piece of cardboard with an aperture cut in it a little smaller than the required vignette, fix it to front of printing frame, print in shade with a piece of ground glass in front of negative, or tissue paper over cardboard. If shading is not soft enough, pinch open the edges of the cardboard aperture with your finger and thumb.—PEN.

EDITORIAL.

SPECIAL NOTICE.—We are very pleased to find that replies in this column are so much appreciated but we should be very grateful if those requiring advice would send their letters to us before TUESDAY MORNING'S post if possible. The time occupied in replying in this column is very considerable, and owing to the often late receipt of letters, many matters have to be left over each week. This we much regret.—ED: AM: PHOT:

EGGAL.—No. 1. This is just a trifle too black on the left hand, and the water is just a little too white. Coat the back of the negative with matt varnish, wiping off on the water. This print is up to competition standard. No. 2. Six feet further to your right and lower down would have improved this. The print is too light and patchy, a trifle deeper printing would improve.

NEVILLE.—(1) Over-exposed and shows a mark of imperfect fixing of negatives, print insufficiently toned. (2) Over-exposed, flat, and poor; print shows signs of some dirt, either pyro or contact with metal. (3) Over-exposed; washing a print for twelve hours is far too long and is the cause of the fading. (4) The print is flat and poor, but might if well printed under tissue paper be suitable for our competitions. (5) The water is far too white and wants printing more and toning more; it is a pretty bit and worth entering in our competitions. (6) Over-exposed, flat, and poor; the marks are probably due to developer not covering plate properly. Do you want prints back? If so, send addressed envelope.

A. W. JAMES.—You were too cramped to do anything but make a very formal stiff group. It would therefore be unfair to "slash into" you. We have used your note with thanks.

BUMBLE.—The easiest method to obtain warm brown tones on bromide paper is to develop the print with the following developer:—

A.					
Sodium sulphite	...	...	...	30	gr.
Elkonogen	...	...	...	6	"
Water	...	...	...	1	oz.

B.					
Carbonate of potash	...	...	...	75	gr.
Water	...	...	...	1	oz.

For use, mix 5 parts of A, 2 parts of B, and 18 parts of water, and add from half grain of bromide of potassium to every ounce of mixed developer; give a long exposure, and you will obtain a pleasing brown tone. Or develop your prints as usual, fix and wash thoroughly, giving them a final wash in nitric acid 1 part, water 20 parts, then wash again and bleach in following:—

Sulphate of copper	...	...	...	8	gr.
Bromide of potash	...	...	...	8	"
Water	...	...	...	2	oz.

Wash thoroughly, and re-develop in daylight with—

Solution A as above	...	...	...	5	drops.
" B	...	...	...	2	"
Water	...	...	...	1	oz.

The image gradually and slowly appears first red brown, then black red, then deep violet black. When the desired tone is obtained, immerse in an acid fixing bath. Your prints are hotly spoilt by the sitters being too conscious of the camera. Had they done anything else, they might have been pleasing—for instance, the hammock occupants might have been examining a piece of work, or one reading and the other listening, the third working. Your boating party might well have been trying to flirt, or you might have let the gentleman lean towards the young lady with a pleading expression on his face, and called it, "Won't you be Friends?"

T. M. CHANNON.—You ought to be able to turn out good work under your skylight. First set—(1) Negative well exposed, but fogged in developing. (2) Under-

exposed and under-developed. (3) Under-exposed, over-developed, and fogged. (4) Well-exposed; developer far too strong in ammonia, and did not cover plate evenly. (5) Very much under-developed. (6) Ditto. (7) Fogged in developing. (8) Under-exposed, under-developed. Second set—(1) Under-exposed, under-developed. (2) Under-developed. (3) Under-developed. The camera you name is a very good one, and either of the two lenses. A whole-plate lens would certainly give you better definition than a half-plate, merely because you use the centre of the field of view.

L. MOONEN.—The subject of your letter is not an easy one to treat, for the simple reason we do not know much about the real reason of reversal in many cases. Like many other photographic subjects, there is still a great deal to be found out. In the particular cases you have been trying, however, there is not the slightest doubt you have been enormously over-exposing. You should use a slow transparency or lantern emulsion plate, and about 40 secs. exposure to gaslight at about 18 in. from burner would give you what you want.

E. E. JESSEL.—(1) There are two processes used by itinerant photographers, the wet collodion on glass, when the negative image obtained is backed with black varnish, which makes it look like a positive; and the wet collodion process on sheet iron, known as ferrotype or tin-type. (2) Ferrotypes are still considered the best, and some ferrotype dry plates have been introduced which are exposed in the camera as usual, and developed with pyro. (3) There is no leading artist in ferrotypes, but you ought to be able to get lessons very easily. If you can't, let us know, and we will put you on to a man. (4) A tin-type is synonymous with a ferrotype.

T. A. CUNNINGHAM.—Lancaster's Multum-in-Parvo reducing and enlarging apparatus, advertised on our back cover, is just what you want.

F. J. THORNTON.—The marks are due to insufficient washing between the alum and fixing baths, and consequent decomposition of hypos with deposition of sulphur.

F. W. WALTER.—Do not use pyro for bromide paper, but try the eikonogen developer recommended in answer to "Bumble" in this column.

LIONEL.—The tones obtained in the lead bath are said not to be permanent. We have not had sufficient experience with it to state positively one way or the other.

VERY TRANSPARENT.—We have tried the paper, and can make nothing of it. It is apparently old stock.

KINCH (Buenos Ayres).—The photographs you send us of the boating district Tigre are very good specimens of work. In No. 1 your figure is a little too near the foreground. No. 2 would have been better if it had been taken in a more subdued light; the intense sunlight has cast such very strong shadows. Your printing is a little deep, and in No. 2 this is particularly noticeable. We should enjoy your using another brand of plates, as you have evidently a very thin negative. Much care is then needed in printing. Either print under ground-glass or tissue paper. We shall hope to see your work in some of our competitions.

E. P.—We are sorry we cannot reconcile the two authorities you name, but Burton does not state the particular sensitiveness of the plate his tables are calculated for, except in terms so vague that we cannot determine what plate he means. If you write to Mr. Wormald, Sutton, Surrey, he would answer you with pleasure, we are sure.

CAB. PHOTO.—You give us no idea of the size of your views you want to enlarge, nor whether you intend using day or artificial light. If the latter, write to Mr. Hume, 1, West College Street, Edinburgh, for his catalogue. Or if you let us know the size you want to enlarge from and to, and your limit of price, we will advise you.

CAMERA.—(1) The sliding front is not necessary, but advantageous sometimes. (2) Your data are so meagre that we can hardly give you any advice. Let us know where the formula is from, how you intend to make it, what sensitiveness you want, and what the plates are for. The formula is certainly poor in silver. (3) Abney has given many formulae. Answer the above questions, and we will then help you.

A. R.—Both cameras are strong, well-made instruments, and being built on almost identical lines, you can hardly say one is better than the other. We prefer to have full names and addresses of our correspondents please, though not necessarily for publication.

F. H. (Stowe Lodge).—(1) Not improved by the blank margins, and the print is flat and over-toned; a good print might be got from the negative. (2) Good. (3) A little flat and not enough depth and colour in the print to warrant the white margins. (4) Fair, cut half inch off foreground. (5) Poor; a plate wasted. (6) Good. (7) The gem of the collection; should be entered in our competitions. (8) Good. (9) Good. (10) Not so pleasing as the silver print. (11) Wants deeper printing. (12) Fair; see note to 4. (13) Spoilt entirely by the bridge being cut off. (14) Very poor; we were a long time before we could make head or tail of this. (15) Good for the subject, which has no artistic qualities. (16) Good. (17) Should have been taken other way of plate and the whole of tent included. Nos. 7 and 16 are, we think, the best, then 8, 9, 2. Your transparency we have not had, or it has miscarried. Your suggestions as to holiday resorts had already been accepted by us, as you will shortly see by our announcements. Always pleased to help you.

ARISTO.—There are several different methods of cleaning glass. A very common one is tripoli, made into a fairly thin paste with water, which is well rubbed on with a pad of linen, then carefully cleaned off with another pad, and finally polishing with a well washed chamolite leather. Others use methylated spirit and water with tripoli. Some use a solution of washing soda, 1 : 20, and subsequent washing; others sulphuric acid 1, water 4 parts; or hydrochloric acid 1, water 4 parts. Others use a mixture of bichromate of potash 60 parts, sulphuric acid 60 parts, water 1,000 parts, followed by subsequent washing in plain water.

J. W. STUTLITZ.—(1) The paper will keep good for at least a month or six weeks before use, longer if extreme care is taken. If prints are kept for two or three weeks, they only take a little longer to tone. (2) If you use the sulphocyanide, alum, and hypo toning and fixing bath, it must stand twenty-four hours before use; the plain sulpho bath may be used in half-an-hour. (3) No, there is no advantage in the salt bath. (4) Ammonia need not be added to the fixing bath.

W. B. H.—Give us more data about washing before toning, fixing, etc., and when the stains appear. The camera you name is a very good instrument.

MAC.—Evidently you have set your standard exceptionally high. Some of your prints are quite equal to first-rate work received in our competitions. We see no reason why you should "chuck up" photography. (1) Cut half inch off foreground, and make a matt-surface print with a little warmer tone. (2) The water wants breaking up by a boat on left, otherwise fair. (3) Just a suspicion of flatness about this; try it in platinum or bromide, then enter it for a competition. (4) Good, but what hateful tones you do get. Good, though printed and toned too deep. (5) Why include the utterly incongruous figure on the left? this spoils an otherwise perfect picture. (7) Good again; another competition picture. (8) The foliage on left a little too black, and water under bridge too white; use rapid bromide paper, expose longer, and use developer weaker in iron, and you'll have another competition picture. (9) Good, bar the stain. (10) In bromide, in a cold grey tone, this would be excellent. (11) Poor, nothing in it. (12) Good, only make the print a pure grey, not the rusty tone you have now, and you will have another competition picture. Suit your tones more to the subjects, and enter some of our competitions, and see what you can do in the way of prize-taking.

S. B. EDWARDS.—(1) We should recommend a shutter, all metal, like Gotz's Wing, 19, Buckingham Street, Strand. (2) Matt-surface silver paper is the simplest, and the one most likely to stand the heat. (3) You cannot do better than get one of Asford's stands, two or three fold. (4) 2 oz. to pint is right; try carbonate of soda instead of ammonia. (5) Get the plates in their boxes packed in tin-lined cases, six boxes in each case. (6) No, the camera and lens will not be affected. (7) No, only take out small quantities of paper; have supplies sent you from home. Take the paper, cut to the required size, wrapped in old sensitized paper, and in flat tin boxes. (8) You had better have the AMATEUR PHOTOGRAPHER sent you from home. Any further information supplied by letter if required.

E. C. L.—(1) The only article we know of appears in the "American Annual of Photography," 1889, p. 58. We will insert as a query if you like. (2) The diagonal of a quarter-plate is over 5 in.; you would, therefore, cut off the corners. (3) You certainly can use the R.R., but you had much better buy a special lantern objective for a few shillings. Shall be pleased to see prints.

E. H. K.—Write to Scholzig, 31, Binfeld Road, Clapham, S.W.

F. TURNER.—Mr. Wall gives the following quantities per oz.:—Developer, p. 53, 20 drops; soda and potash accelerator, p. 52, 1 drachm; No. 2 Restrainer, p. 51, 5 drops. Leave the negative in the clearing-bath five minutes. We shall be very pleased to have the account of your district parades.

C. H.—Stale plates, too much ammonia, old sulphite developer, traces of hypos will all produce iridescent green fog. Cut six pieces of thick white blotting paper, and lay in the plate-box; put in the negative, cut six more pieces of blotting paper, and lay on top; pad with brown paper, and tie a luggage label on box, on which put the stamps.

C. V. DAVIES.—Thank you for your interesting letter, which we make use of.

FLARE SPOT.—Please send full address, and we will forward syllabus and plate.

amounts deposited until they are satisfied that the transaction has been completed to the satisfaction of buyer and seller.

COMMISSION.—A charge of 2½ per cent. will be deducted from all deposits whether a sale is effected or not. Minimum charge 1s.

PAYMENT.—All payments are to be by cheques or Postal Orders, made payable to Hazell, Watson, and Viney, Ltd., 1, Creed Lane, London, E.C.

REPORTING.—Apparatus may be sent to the EDITOR, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C., who will report upon the apparatus to the buyer for a minimum fee of 2s. 6d., or a commission of 2½ per cent., upon the sale price of the apparatus.

CARRIAGE must be paid on all apparatus sent for report, and they will be returned carriage forward.

ADVERTISEMENTS can be inserted under a number, the name and address being registered, and letters forwarded for a fee of 3d. to cover postage.

ADDRESS.—All advertisements (which can be received up to Wednesday morning, 9.0 a.m.) and other communications having reference to the "Sale and Exchange" column, must be addressed "Sale and Exchange, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C."

PAYMENTS should be made in Postal Orders or Postage Stamps.

Bicycles.—Cushion tyre Safety; cost £14; price £8 will take half-plate apparatus and cash.—7, Dereham Road, Norwich.

Safety bicycle, £4 10s., sold tyres, cushion tyre, £7; or exchange photographic apparatus; letters.—Cyclist, 7, Dereham Road, Norwich.

Will exchange good Universal Rover bicycle for camera and accessories. — E. Hobson, 18, Fenchurch Street, E.C.

Cameras, etc.—Omnigraph, leather covered, leather bound canvas case; cost 30s.; 17s. 6d.; or exchange good rectilinear; specimen print. — Eric Bailly, 10, Clarendon Crescent, Edinburgh.

Underwood's whole-plate 1891 Instanto camera, three double slides, two double carriers, extra front, perfect, as new, cost £6 12s., price £4 10s.; camera case, cost 15s., 10s.; Asford's tripod, 15s.; approval with pleasure. — Avery, 45, Park Street, Dorset Square, London.

Tourist Premier camera, half-plate, by Watson, Holborn (No. 686, page 11 catalogue), three double dark-slides, best leather case, and tripod, equal to new; cost £9s. 6d.; for cash, £5 10s. — Newland, Rathgar, Wexford, Co. Wick.

Cameras, Lenses, etc. — Cameras, McKellen's 10 by 8, three backs; ditto 5 by 4, three backs, with Watson lens, shutter, and stand; Dallmeyer's 5 by 4, six backs, Voigtlander lens, whole-plate True View ditto, 12 by 10. — C. 88, Newman Street, London, W.

7½ camera, with changing apparatus (by Hare), rapid rectilinear lens, with iris; £5.—Walter, 11, Merriam Street, Dublin.

Great bargain! 1891 half-plate Instantograph camera, slide, tripod, and rapid rectilinear lens, as new; only 67s. 6d.—John Slade, Slad Road, Stroud, Glos.

Hand-Cameras, etc. — Hand-camera, holding 12 quarter plates, automatic changer, covered morocco leather, with first-class lens, instantaneous blind shutter and finder, complete; price 30s.; warranted in thorough working order. — J. Mercer, 16, King Street, Sparkbrook, Birmingham.

Lantern.—Hume's cantilever enlarging lantern, 5in. condensers, good as new; for £4 10s.—Chas. Stevenson, Stewart Hall, Stirling.

Powerful dissolving binomial time-light lantern, in perfect order, mahogany body, 4 in. condensers, brass fronts, lenses, dissolver, and all accessories, packed strong portable case; £12 wanted; cost £20.—Tunstall, Photographic Club, 3, Lord Street, Liverpool.

Lenses, etc.—Taylor and Hobson's special detective lens, 6 in. focus, iris diaphragms, magnificent lens, quite new and perfect; price 55s.—Dickie, care of Cooper, Chesham, Stockport.

Lancaster's whole-plate instantaneous lens, with shutter, complete, perfectly new; 30s.; or exchange for sundries.—G. Brown, Photographer, Ibsstock, Ashby de-la-Zouch.

7 by 5 rapid rectilinear lens, with Waterhouse stops, as new; 17s. 6d.—53, Slad Road, Stroud, Glos.

Ross landscape lens, 6 in. focus, nearly new; 35s.—Lorne, 454, Kingsland Road, N.

Whole-plate rapid landscape lens, f/8, conical mount, 18s. 6d.—Setacci, 41, Waldemar Avenue, Fulham, S.W.

8 by 5 R.R. (Sands and Hunter), quite new, iris diaphragm, cost £4 10s., price £3; 7 by 5 R.R., London Stereoscopic, 32s. 6d.; 7 by 5 R.R., splendid lens, 30s.; approval pleasure.—Avery, 45, Park Street, Dorset Square, London.

Negatives.—Fifty quarter-plate instantaneous negatives, views of London, suitable for making lantern slides; price 1s. each; specimen, post-free 1s. 3d. — J. Stabb, 139, Queen's Road, Bayswater.

Sets.—Lancaster's quarter-plate set, nearly new; cost £5; take half.—Davies, 22, Market Square, Pontypridd.

Marion's quarter-plate Union camera, six patent single backs, extends 14 in., every movement, including side-swing, folding stand, in leather-bound case, Optimus R.R. lens; price £4 5s., or, fitted with roll-holder,

Sale and Exchange.

RULES.

CHARGE.—Twelve words or less for Fourpence.

Every additional three words, one penny. The name and address of the sender must be paid for. (A single figure, or group of figures undivided by letter, space, stop, or words, counts as one word; compound words count as two words.)

DEPOSITS.—The money for goods forwarded on approval may be deposited with the Publishers of the AMATEUR PHOTOGRAPHER, who will hold the

£6. Wanted, good hand-camera. — Hartshorne, 159, High Street, Uxbridge.

5 by 4 set, cost £5, three slides, lens, etc.; price £3 10s.; bargain. — 7, Dereham Road, Norwich.

5 by 4 splendid set, three double slides, and lens, cost £8, price £3 10s.; half-plate camera, four slides, lens, price £2 10s. — 7, Dereham Road, Norwich.

Good chance for beginner. Perken's quarter-plate Optimus camera and tripod, complete, or with chemicals and extras as sold in 45s. sets, warranted perfect, and nearly new; offers. — James, 8, Finch Lane, City, London.

5 by 4 mahogany camera (by Fry), quite new, three double extension, all movements, including short-focus for wide-angle, fitted brass turntable, bargain, 70s., worth double; also Morgan and Kidd's half-plate roll-holder, 15s.; also automatic Everset shutter, 11s. 6d. — Toulmin, 3, Westbourne Villas, Acton.

Whole-plate Optimus wide-angle camera, with three slides, leather bag, and 3-fold stand; list price £12; only £7 10s.; nearly new. — Manchester Photographic Depot, 71, Oxford Street, All Saints.

Middlemiss camera, whole-plate, all movements, three double backs, tripod, in stiff cloth case, £6; lens, Ross 9 by 7 rapid symmetrical, Iris diaphragm, £6 10s.; Swinden and Earp's hand-camera, condition perfect, £5 10s., cost £7. — Dr. Dearden, Wyke, Bradford.

Complete 12 by 10 set, great bargain. Rayment's patent camera and four slides, in solid leather case, two lenses, Optimus R.R. and Optimus W.A., in leather case, tripod, carriers, printing frames, dishes, two dozen Edwards's plates, instantaneous shutter, whole cost £38, equal to new; price £20, or offers. — To be seen at the AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.

Shutter. — Underwood's Instantograph shutter, 23in.

hood, good condition; cost £1; take 10s. 6d., or close offer. — 3, Edmund Place, Aldersgate Street, E.C.

Sundries. — Accessory for studio, halustrade, imitation old moss-grown stone, 30s.; carved oak chair, 25s. — 7, Dereham Road, Norwich.

AMATEUR PHOTOGRAPHER, Nos. 245 to 264 inclusive; what offers? — S. Horton, Brandling Terrace, North Shields.

Lancaster's whole-plate tripod stand, exterior canvas background, on roller, flatted oil, both nearly new; 18s.; or exchange good grey skin rug. — Address, Cymry, Leigh Road, Atherton, Manchester.

For sale, cheap, AMATEUR PHOTOGRAPHER, vols vii. to viii.; "Reporter," No. 1 to date. — Ed. Mason, Ask-rigg, Bedale.

Portable span-roof greenhouse, 9 ft. by 6 ft., glass complete, superior make; only £1. — Overend, Kate's Cottage, West Green Road, Tottenham.

WANTED.

Cameras, etc. — 6½ by 4½ stereo camera and slides (Chadwick's preferred). — J. H. Hoyle, Milnrow, Rochdale.

Dark-Slides. — Lancaster's half-plate slides. — J. H., 10, St. Domingo Vale, Liverpool.

Lenses, etc. — Whole-plate wide-angle rectilinear lens, must be cheap; approval. — Particulars to G. Brown, Istock, Ashby-de-la-Zouch.

Wide-angle lens, half-plate, cheap. — F. Thornton, 15, Bromley Road, Beckenham.

Hand-Cameras, etc. — Wanted immediately, either Shew's quarter-plate hand-camera, three double dark-slides, or good, strong, light, ordinary quarter-plate, all movements, three slides; say maker of lens and style of legs — David Brown, Donaghmore, Tyrone.

PHOTOGRAPHY USEFULLY APPLIED (a) in Household Decoration, (b) as a means of Education and Amusement, (c) Technically in Pottery Manufacture. A prize of Two Guineas is offered for the best Written Paper on the subject of photography indicated above. — Full particulars of competition sent post free on application to J. W. Moore, Midland Photographic Depot, 7, Market Square, Hanley.

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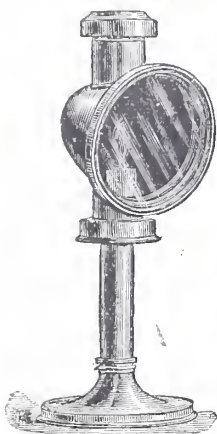
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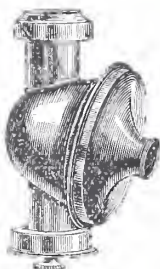
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Offices: 1, Creed Lane, Ludgate Hill, London, E.C.

No. 364. VOL. XIV.]

FRIDAY, SEPTEMBER 25, 1891.

[PRICE TWOPENCE.]

OUR VIEWS.

"To hold as 'twere the mirror up to nature,"—*Shakespeare*.

OUR VIEWS.—The AMATEUR PHOTOGRAPHER "Photography at Home" Competition; the awards—Another Annual, "Photographs of the Year"—The AMATEUR PHOTOGRAPHER "Monday Evenings;" the Programme—Free Libraries and Photographic Surveys—Photographic Classes at the People's Palace—A Committee to be formed to consider the question of Photographing Musical Scores.

LEADER.—The Glasgow International Photographic Exhibition.

ILLUSTRATIONS.—Automatic Photography photographed by J. Buchanan Young, M.A.

LETTERS.—The Volute Shutter (Clifford E. F. Nash)—A False Actinometric Theory (Osiris)—Canada as a Field for Photographers (Fenwick W. Stow)—Pirating Apparatus (S. D. McKellen).

ARTICLES.—Photographic Procedure (Wall)—Instantaneous Photography (Harrison)—Consistent Naturalism in Photography (Lyddell Sawyer)—How I Started a Successful Society (Provincial)—New Method of Increasing the Light-Sensitiveness of Asphalt (Valenta).

HOLIDAY RESORTS.—Wanderings in Central Europe (J. T. Atkinson)—Margaretting (Arthur J. Golding).

NOTES.—An Opening Night at Liverpool.

EXHIBITIONS.—Glasgow; Fourth Notice.

SOCIETIES' MEETINGS.—King's Lynn—Lewisham—North London—Preston—Richmond—Spenn Valley—Wakefield—Woolwich and District—West Surrey.

EDITORIAL DEPARTMENT.—All Literary Contributions, Queries and Answers, Photographs for Competition or Criticism, Books or apparatus for Notice or Review are to be addressed to the EDITOR, AMATEUR PHOTOGRAPHER, 1, CREED LANE, LUDGATE HILL, LONDON, E.C. (All Communications should reach the Editor on Tuesday.)

TRADE ADVERTISEMENTS are received up to Tuesday morning.

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PUBLISHING DEPARTMENT.—All letters containing Subscriptions, Orders, Remittances, SALE AND EXCHANGE Advertisements, or other business matters for the AMATEUR PHOTOGRAPHER are to be addressed to the Publishers, HAZELL, WATSON, and VINEY, LD., 1, CREED LANE, LUDGATE HILL, LONDON, E.C. (SALE AND EXCHANGE Advertisements, at the charge of *Three Words for One Penny*, can be received as late as WEDNESDAY MORNING.)

"Amateur Photographer" 1891 Lantern Slide Competition (Fourth Year).—Prizes: Gold, Silver, and Bronze Medals, and Certificates in each class. Competitors to enter only *one* class; every competitor to contribute *ten* slides, and a "lantern slide portrait" of him or her self.

CLASS I.—Landscape, Sea Pieces, and River Scenery, with or without figures.

CLASS II.—Portraiture and Figure Studies, to include in-door or out-door pictures.

CLASS III.—Architecture, Interior or Exterior.

CLASS IV.—The Fine Arts, which may include copies of Pictures, Engravings, Sculpture, Art Metal Work, China, Bric-a-Brac, etc.

NOTE.—Every Competitor must send descriptive Notes.

Past prize-winners will be awarded "Nepce" or progressive medals, should they win a medal of the same value as that which they have been awarded in past Lantern Slide Competitions.

All slides must be received on or before the 30th September, 1891.

RULES, CONDITIONS, and ENTRY FORMS will be forwarded on receipt of stamped addressed envelope. The application should be endorsed, "LANTERN SLIDE COMPETITION," Editor, AMATEUR PHOTOGRAPHER, 1, Creed Lane, E.C.

"Amateur Photographer" Monthly Competition No. 29.—Prizes: Silver and Bronze Medals, with Ribbon and Clasp—"HARVESTING." Last day, OCTOBER 1ST. One print only to be sent in. Entry forms, etc., on receipt of stamped envelope. Address: Editor, AMATEUR PHOTOGRAPHER, 1, Creed Lane, E.C.

"Amateur Photographer" Monthly Lantern Slide Competition (Sixth).—"PORTRAITURE AND FIGURE STUDIES." Last day, OCTOBER 22ND. Two Slides to be sent in. Entry Forms, etc., on receipt of stamped envelope. Address: Editor, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C.

Members of the Editing Staff are At Home" on Monday, afternoons from Two till Five o'clock, and they will gladly give advice upon all photographic matters.

ON Thursday last the photographs contributed to the AMATEUR PHOTOGRAPHER "Photography at Home" Competition were judged by Messrs. George Davison, Alfred Maskell, and Philip H. Newman. A considerable amount of the work sent in is of only fair average, but the prize photographs are well deserving the awards made, which were as follows:—

First Gold Medal.

JOHN E. DUMONT .. Rochester, New York.

The titles of his photographs, all of which are of exceptional merit, are: "Fabiola" (after Henner), "The Bait Question," "The Formula," "A Good Hand," and the "Dice Players."

The second gold medal was withheld.

First Silver Medal.

S. FRANCIS CLARKE Louth.

This competitor sends "The Seven Ages of Man," which are really wonderful. He explains that they were not ready in time for the competition we promoted some time since, and writes us: "The whole of the negatives have been taken either before nine in the morning or after four in the afternoon. Fifteen models are used in the pictures, and it required some arranging to make all appointments fit in. The whole of the pictures were taken in a small back yard surrounded by high walls and buildings."

Second Silver Medal.

E. B. WAIN .. Norton-in-the-Moors.

Mr. Wain calls his series "My Neighbour's Six Backyard Studies." The titles are: "A Man of Polish," "A Merry Time," "His Saturday Paper," "A Difficult Passage," "Good-bye," "Though Lost to Sight to Memory Dear," "Home Treasures." In all these there is a vein of humour, in addition to excellent photography. Mr. Wain says of his pictures: "They have all been taken out of doors in a small back yard facing north. A high building on the west side keeps off the afternoon sun. The title is literally true."

First Bronze Medal.

A. H. BLAKE Eton

Four half-plate photographs are sent by this competitor. "The Old Man's Darling," "Good News," "Bad News," "Helping Mother," all very carefully thought-out little pictures and perfect in execution.

Second Bronze Medal.

GEORGE A. CARRUTHERS Liscard.

The eight photographs are not equal in merit, or they might have obtained a higher award.

Third Bronze Medal.

CECIL KIRKPATRICK Wormwood Scrubs.

This competitor's best work are two portrait studies, "Lionel" and "Miss Stephens." The other pictures are of only average merit.

First Certificate.

HON. MISS DILLON Shipton-under-Wychwood.

One or two of this competitor's pictures are admirable, but unfortunately they are not equal in merit. The "Algerian Orange Seller" is a wonderful piece of lighting.

Second Certificate.

J. OSWELL BURY Wrexham.

This competitor sends one or two good portrait studies, and a rather amusing pair of pictures, "On Duty" and "On Furlough." The first portrays a soldier mounting guard, and in the second the same soldier paying his addresses, whilst seated on a stile, to his "best girl," as our American cousins would say.

As a whole, we are somewhat disappointed with the pictures sent to the competition; there is rather too general a tendency to send funny(?) pictures, and they prove without doubt that the professional photographer has no need to fear that his position as a portrait taker will ever be assailed successfully by competitors to the AMATEUR PHOTOGRAPHER competitions. We shall endeavour in some way to give the public an opportunity of seeing either the original prize photographs or reproductions of them. The originals will be on exhibit at Creed Lane, after the 20th of next month; due notice will be given in these columns, and particulars of the form in which they will be reproduced.



It has for some time appeared to us strange that no effort has ever been made to reproduce the notable photographs exhibited each year at the Exhibition of the Photographic Society of Great Britain. After considerable consultation with the President of the Society, Professor James Glaisher, and several members of the Council, we have determined to take in hand and, if successful, to publish annually:

"PHOTOGRAPHS OF THE YEAR."

Twelve of the most notable, possibly not all medalled, photographs will be reduced to say $7\frac{1}{2}$ by 5, and reproduced by the Woodburytype Company's permanent clean margin process on 15 by 12 (or thereabouts) mounts with plate mark, accompanied by some eight pages of letterpress descriptive of the pictures. The services of

MR. H. P. ROBINSON

have been retained for this work. No expense will be spared to make "Photographs of the Year" in every way the most artistic photographic publication yet published. It is hoped that it may be possible to have the subscribers' edition ready by the third week in October. Fuller particulars will be advertised next week. The book will be published at half a guinea, but a limited number will be sold to subscribers at 7s. 6d.

The plates will be well worth framing, and will form a unique collection of photographs of the year as represented at the Exhibition of the Photographic Society of Great Britain.



THE opening night of the AMATEUR PHOTOGRAPHER'S "Monday Evenings" is fixed for Monday, the 28th inst., at

8 p.m. Ladies and gentlemen are cordially invited to attend. Our "Monday Evenings" will be held fortnightly, admission by ticket, which can be had upon application. The arrangements at present are as follows:—

Sept. 28th.—Philip H. Newman: "Composition," illustrated with reproductions of Harding's work.

Oct. 12th.—Valentine Blanchard: Demonstration on "Platinum Printing."

Oct. 26th.—Exhibition of AMATEUR PHOTOGRAPHER Monthly Competition Lantern Slides, "Landscape and Seascape," "Portraiture and Figure Studies," by the Editor.

Nov. 9th.—F. Fry (Woodbury Company): Demonstration on "Carbon Printing."

Nov. 23rd.—Demonstration on Lantern-Slide Making and Exhibition of AMATEUR PHOTOGRAPHER Monthly Competition Lantern Slides, "Animals and Instantaneous," by the Editor.

Dec. 7th.—Dr. J. J. Acworth, F.I.C., F.C.S.: Lecture on "Flash-light," with examples.

Dec. 21st.—Exhibition of hand-cameras, with specimens of work and lantern slides made from negatives taken in hand-cameras.

It is impossible to say if the foregoing programme will be strictly adhered to, but it is hoped that it will at least be sufficient to show the kind of entertainment that will be provided at our "Monday Evenings."

As the room at our disposal is somewhat limited, we shall be compelled to refuse admittance to any except ticket holders, and we wish particularly to urge upon all who intend to be present to be in their seats punctually by eight o'clock. The meetings will be arranged to conclude about 9.30 p.m., or at the latest 10 o'clock.

We would mention that, so far as our knowledge goes, no photographic journal has either had the enterprise or has the accommodation to offer their subscribers such advantages as are set forth in our programme. We believe that the "Monday Evenings" will be well attended, and it is certain that they will bring us in closer personal touch with our readers, and afford to them valuable instruction. We would add that the services of lecturers and demonstrators are purely voluntary, and that we are deeply sensible of our indebtedness to them for helping us to establish the AMATEUR PHOTOGRAPHER "Monday Evenings," at 1, Creed Lane, E.C.



At the Congress of Librarians concluded last week at Nottingham a very interesting paper was read by Mr. J. Ballinger, on "Free Libraries and the Photographic Survey of Counties." Mr. Ballinger is the librarian of the Cardiff Free Library, and has doubtless had his attention prominently called to the subject of photographic surveys by the very admirable work recently done by the members of the Cardiff Photographic Society, and which received such high praise at the exhibition held during the visit of the British Association to that city. In his paper he pointed out that the spread of photography had been followed by the establishment of photographic societies in many towns, and that some of the societies were engaged in making systematic pictorial representations of the districts in which they were located, and he strongly urged that this movement should be extended. An attempt should, he thought, be made to secure photographs of all prehistoric remains, of all buildings or places of interest likely to be removed or altered, and of any other objects typical of the country. The photographs should, he suggested, be kept in the reference department of a free public library, and the movement should be encouraged by the library committees of town councils.



WE are glad to see that Sir George Grove's excellent proposition as to the photography of musical scores, to which we alluded last week, has drawn from Dr. A. C. Mackenzie the suggestion that a committee should be formed for this

purpose. It is almost needless for us to allude to the eminent position of Dr. Mackenzie. His charming musical setting to *Ravenswood*, as produced not long ago at the Lyceum Theatre, will be remembered by most people, while his authority as Principal of the London Academy of Music is deservedly high. It is proposed that some of Beethoven's Symphonies should be photographed, and the selection could hardly be more interesting. Of these Symphonies it is recorded that Schopenhauer would listen to them with closed eyes and leave the room directly after their performance, in order to retain their impression undimmed. Dr. Mackenzie asks for a committee "for the purpose of discussing the possible fulfilment of a proposal which is of great importance alike to students and lovers of Beethoven."

We are pleased to notice that a photographic society has been started in that very enterprising and growing suburb Leytonstone—under the title "Our Camera Club." The club will have commodious quarters at the Leytonstone Assembly Rooms; there will be reading room, lecture hall, dark-rooms, etc. The weekly evening will be held on Saturdays at 8 p.m., and on these evenings lecturettes will be given on photography and kindred subjects, demonstrations upon processes, etc. The executive hope to be able to get classes for instruction. An exhibition will be arranged, and during the winter several lectures will be given in the large hall attached to the rooms. We understand that already some forty members have been enrolled. The Hon. Secretaries, Messrs. Robert Overton and T. F. Sanderson, will give every information to any of our readers who may wish to become members, on receipt of a letter addressed to them at the Assembly Rooms, Leytonstone.

OUR illustration this week we have titled "Automatic Photography Photographed." The original picture was taken by one of our subscribers, Mr. J. Buchanan Young, of Edinburgh, whilst on a visit to Bournemouth, with a quarter-plate "Kodak." The print sent us is excellent, and we have thought that the humour shown in the selection of the subject will be appreciated by the readers of the AMATEUR PHOTOGRAPHER.

WE note that Mr. Charles W. Gamble will commence the fifth winter course of technical and practical instruction in photography on Thursday next, October 1st, at the People's Palace Technical Schools. The classes commence at 8 p.m. The fee for the course is 10s. 6d.

WE would mention, in reference to the journeys for the 1891 Prize Slides, that they will be in London from the 17th October to the 26th, and at present no dates are taken. They will be in Lancashire in the middle of November, and the 13th, 14th, 15th, as well as the 18th, 19th, 20th, 21st, and 23rd are still open. In December the slides will again be in London, and are disengaged from the 5th to the 15th.

The first week in January they will be despatched for towns on the East coast as far north as Newcastle-on-Tyne. A few dates are still open. They will be in London on the 18th of January, and are available for towns on the South coast from the 21st to the 30th of that month. It is intended then to despatch them to the West of England. In February they are booked on the 1st, 2nd, and 5th, and will leave for Cork on the 10th, proceed to Dublin, and back into Lancashire. The fixtures for March have not yet been made even prospectively, although many applications have been received.

Our aim is to loan the slides to as many societies as pos-

sible, and to keep down the cost to each. This depends to a great extent upon societies fixing dates in accordance with the foregoing programme.

THE GLASGOW INTERNATIONAL PHOTOGRAPHIC EXHIBITION.

THE MORAL TO BE DERIVED FROM IT.

The general opinion seems now pretty well settled and fixed that the Glasgow Exhibition is the finest and most representative of any that has been held in Great Britain, even surpassing Liverpool, which was, without doubt, the finest up to date. This result could not have been attained without long prepared plans well carried out, and the pre-

ILLUSTRATION FOR THE WEEK.



AUTOMATIC PHOTOGRAPHY PHOTOGRAPHED.

BY J. BUCHANAN YOUNG, M.A.

face to the catalogue shows that it was so, for it appears that the energetic body of workers who have brought about this magnificent result commenced their labours last January.

There can be no doubt that any one familiar with the annual exhibitions in Pall Mall would be compelled to admit, on going carefully through the six rooms devoted to photography, that this exhibition was a much more striking one than the annual show of photographs brought about by the Photographic Society of Great Britain. A little consideration must make clear the reason for this result. A very considerable proportion of the pictures sent in were works that had already made their mark, though not honoured with medals, and, of course, in the champion class every picture or series had won the latter distinction.

One reason for the striking effect of the large gallery is the absence of screens, and another is, without doubt, the absence of small pictures. Whilst, however, greater effect is gained in the principal room, it is doubtful if the

smaller pictures attract more attention by their relegation to smaller rooms. There is a monotony of effect produced by the gathering together of a quantity of small pictures, nearly all of one size, that it is impossible to overcome. A sense of fatigue comes over the visitor when he sees the number to be inspected, and in consequence only too frequently many admirable little pictures are passed over from sheer indifference.

The large portrait-work of the Scotch exhibitors deserves the highest praise for one most commendable quality, viz., the very sparing use of accessories in the background. Rightly used, they play a very useful part in repeating, in a secondary degree, the lights and shadows of the principal object, and, by carrying them through the picture, give a sense of completeness to the whole composition; but mis-used, as is only too frequently the case, they distract the attention from the principal subject, and rob it of all dignity. There are one or two notable examples of this fault—even in the champion class, but not by Scotchmen.

Simplicity of treatment, and forcible but artistic lighting, characterise the work of the northern artists. In fact, it is so good, that one desires it to be better, for it has one serious fault—a fault, unfortunately, not confined to Scotch workers—it is touched up far too much for work of such important dimensions. When will photographers see that fineness of finish which has some justification in pictures to be inspected a few inches from the eyes, is altogether out of place in a work which cannot be taken in by the beholder except at a distance of several feet? Imagine a portrait painter putting microscopic finish into a life-sized head! It is true that the pictures are not nearly life-size, but they are much too large for the treatment complained of. It needs courage to be the first to cure a radical evil, but let anyone look at the artistic work of Mr. Crooke, where this fault does not exist, and surely he must be converted. There is a breadth in the work of this gentleman that has not been seen since the mezzotints of the days of Sir Joshua Reynolds. All artists are agreed on this question of finish. When will photographers learn from them?

There is a distinct reaction against the over-elaboration of work on the negative which has made the portraits of our greatest men almost historically worthless. Surely it is a bitter satire to think that photography, which should surpass all unaided efforts of the artist in rendering truth, has been so misused in the latter part of the Victorian era, which in its dawn saw the birth of this great discovery, that in years to come the seeker after truth will be compelled to go to the work of Millais and others if he would know what kind of men our statesmen were, after years ripe with work for the good of the State. Millais puts in all the lines that mark the well-worn life; the modern photographer takes them all away. Several of the smaller pictures which have been distinguished by medals show such a marked improvement that it is to be hoped that the beginning of the end has come, and that within a reasonable space of time "retouching" will only be employed to mend tint or to soften crude shadows.

It is matter for great surprise that the pictures from half-plate downwards, are so meagre in quantity and comparatively so poor in quality. Is it that the photographer who has the courage to carry out a camera large enough to entail considerable physical exertion, regards his labours in far too serious a light to waste time in pop shots? Does he, in fact, set about his work much in the manner of the painter, and well consider his subject before he attempts to fix it definitely upon his plate? And yet when one considers the number of cameras to be seen on any fine day, carried by panting enthusiasts, in any well known picturesque spot—the writer saw at least thirty in one morning at Whitby recently—it is simply amazing the small quantity of really artistic work that finds its way on to the walls of an exhibition such as that at Glasgow. The fever must be like that of the fisherman, whose interest in his work ceases the moment the fish is landed, and when the *negative* stage has been reached the work stops there.

The Glasgow Exhibition has been such a great success that within a reasonable space of time there is little doubt the workers who have brought about this result will repeat their experiment. In view of this possibility, we are compelled to say a few words about the system of classes. This plan was adopted by the Photographic Society of Great Britain some years ago, but was found to work so unfairly that it was discontinued. The argument held by the supporters of the class system is, that without it not half the quantity of pictures would be sent, and that with a poor show no exhibition could possibly be successful financially. This might be true with some of those held in remote parts of the country; but after such a success the Scotch will be strong enough next time to try the experiment of doing without them. An examination of the awards will show how unfairly it works. The pictures of T. P. Gibson, Shapoor Bhedwar, and others are passed by without award, whilst some obscure worker in an out-of-the-way class—at least a class not calling for great artistic ability on the part of the exhibitor in it—receives an award which puts his work on the same level as that of the veteran H. P. Robinson! This is clearly not the fault of the judges, for they are bound by the conditions laid down for them; but the injustice is there all the same.



Letters to the Editor.

THE VOLUTE SHUTTER.

SIR,—In taking the "Volute" as his type of the "go and return" class of shutter, Mr. Wall appears not to have noticed that though the exposing disc does go up and down, the wheel from which it is suspended moves continuously in a circle. There is no "reversal of motion." It is true that when used as a time shutter the circular motion is arrested and then continued, but even in this case there is absolutely no vibration. I use this shutter for all purposes, never using a lens cap, and I have never found the least trace of vibration.—Yours, etc.,

CLIFFORD E. F. NASH.

EXHIBITIONS.

SOCIETY.	Place.	Open.	Close.	Last date for sending in.	Secretary.
Exhibition Committee ...	Amsterdam.	Oct. 1.	Oct. 15.		Chr. J. Schuver, P. C. Hoofstraat 72, Amsterdam.
Am: Phot: Soc: ...	Glasgow.	Sept. 1.	Oct. 3.	Aug. 22.	Wm. Goodwin, 3, Lynedoch Street, Glasgow.
Phot: Soc: of Great Britain	London.	Sept. 28.	Nov. 12.	Sept. 16	H. A. Lawrance, 50, Great Russell Street, London W.C.
Phot: Soc: ...	Hackney.	Oct. 21.	Oct. 22.	.....	W. Fenton Jones, 6, Victoria Street, Hackney, N.E.
Art Gallery Committee ...	Leeds.	Dec. 7.	Jan 9.	Nov. 27.	Geo. Birkett, Municipal Art Gallery, Leeds.

A FALSE ACTINOMETRIC THEORY.

SIR,—I am much obliged to Mr. Alfred Watkins for his explanatory letter of last week, but I have still one doubt in my mind which I should be glad to have some light thrown on, and it is partly due to Mr. Watkins' own letter of last issue, where he says, "The white object took five minutes to darken the actinometer to the standard tint, and the dark-green one 130 minutes to do the same thing under similar circumstances. The white test was taken before and after the other test, and the average is given. Now this shows a ratio between reflecting capacity of the two subjects of 1 to 26, and every photographer will know that the difference in the proper exposure for the two subjects is not nearly so great: my experience puts it at about 1 to 6 or 1 to 8."

The italics are mine, and my objections to this are:—(1) That every photographer does not know that the difference is not so great. (2) That we have not had all of us such an experience as Mr. Watkins. (3) That the above test proves that any actinometer based upon the darkening of bromide of silver impregnated with nitrite of potash is totally unreliable. (4) That the ratio between the formation of an invisible image and the formation of a coloured product has no constant value.

I shall be glad if Mr. Watkins can answer these points, which although they seem to attack his exposure meter are not intended to do so, as I can from experience speak highly of it, but these are points which have always seemed to me to be neglected.—Yours truly,

OSIRIS.

* * * *

CANADA AS A FIELD FOR PHOTOGRAPHERS.

SIR,—Possibly a few notes of a recent tour in Canada may be of interest. It was not a photographic tour, nor strictly a tour at all, but a visit to Canada on which a little photography was done. I sailed from Liverpool by the Allan Line s.s. *Sardinian* on June 25th. I found a hand-camera a great resource of amusement on a voyage.

Mine consists only of one of Lancaster's quarter-plate cameras enclosed in a home-made box, and fitted with a good lens of 5½ in. focus working at *f*/6. I use a Thornton-Pickard shutter, only instantaneous. The box has a turn-table, so that it can be placed on a tripod; the camera has a rising front and swing-back, and I can use it with only one of the lens combinations, so as to give a focus of 11 inches. This is useful at sea.

I took also a whole-plate camera for landscapes, etc., with a Voigtlander's "Euryscope" of 11 inches focus, working at *f*/6 and a T. and I. Thornton-Pickard shutter. This lens is, in my opinion, vastly superior to the imitations of it which I have seen. I had also a wide-angle lens. I provided myself with "Castle" plates chiefly, but I had some of Paget's rapid plates and some of Mawson's, of both sizes. I had also some of Carbutt's films, both slow and rapid. I took with me a Watkins exposure meter. It is a capital little instrument, which I have used for a year in England with advantage, especially in winter or dull weather. But it was useless in a Canadian summer, and I should have spoilt all my plates if I had trusted to it. The "Castle" plates are excellent. I found that they are being imported into Canada, in spite of a heavy duty which is laid on for the benefit of a single Canadian manufactory, which is "run" by a Yankee. They were being used both by professional photographers and by members of the Government Photographic Survey Department.

Speaking generally, the atmosphere in Canada is clear and bright. It was what they call a wet summer, and certainly there were very heavy rains. But when the rain ceases, it is soon as bright as ever. The foliage is of a beautifully fresh green, which photographs nicely.

Canada, of course, has no old ruins or quaint old houses, stone bridges, either old or new, nor other things of which the English picturesque so largely consists. But there is a good deal that is picturesque, nevertheless. There is a good deal that is curious and some things that are grand. Amongst the grand things, of course, Niagara Falls rank first. Before I went to see the Falls, I rather wondered why photographs of it are so unsuccessful. But when you get there the difficulty is obvious. You have the most lovely blue-green water descending. The photographic contrast between this and white, especially at some distance and with the interposition of a little spray, is very slight. If the water came down amber coloured, as it does from our Yorkshire moors, it would photograph beautifully. As it is, the choice lies between disregarding the rocks and surroundings altogether, and giving, say, one-fiftieth of a second with *f*/32, for the water only,

which seems to be the favourite plan, and being content with moderate contrasts in the water, so as to get a full exposure for the rest. I tried the latter plan and gave the one-fiftieth of a second with *f*/10 or *f*/13. By the former plan the water appears darker and with more violent contrasts in it than appear to the eye. By the latter you get certainly somewhat less life in the water than the eye sees, but you get a foreground or a background besides. But, besides all this, photographers fail, as they must fail, to represent the effect produced by real grandeur on the imagination. It is not what you see, but what you do not see, that impresses you most at Niagara. You see the mighty mass of blue-green water in the centre of the Horse Shoe Falls rolling over. You watch it breaking as it falls a short distance from the top. Then up rush the snow-white curtains of spray and hide the rest from your sight. The ear hears the roar, but no eye sees the awful dash with which it reaches the bottom. Most photographs show you the mere spouts of water at the edge of the Falls, which make comparatively little spray. These would be noble waterfalls anywhere else. But they are not the real Niagara.

FENWICK W. STOW.

September 16th, 1891.

* * * *

PIRATING APPARATUS.

SIR,—I have read Messrs. Watson and Sons' warning with reference to imitations of their camera. I also wish to warn the public that cameras purporting to be McKellen's double-pinion, treble patent have been offered for sale. Some makers obtain a licence for one of my movements, and others put movements in without the honesty of paying for even one, and both call the productions McKellen's. I will not ask you to advertize the quality of my cameras cheaply by comparing these productions; and my instruments, but I will be glad to certify for or against; (as the case may be) any camera offered as my make.—I am, yours, etc.,

S. D. MCKELLEN.

3, Chapman Street, Hulmo.



Photographic Procedure.

BY E. J. WALL,

Author of the "Dictionary of Photography."

SECTION I.

THE CAMERA AND ITS APPURTENANCES.

Shutters, Instantaneous (continued).

"The speed of a shutter is not always the main point to be observed; efficiency is a very important point, and the word "efficiency" as applied to a shutter has a special meaning, viz., the ratio which the total amount of light which passes through the shutter during exposure bears to the amount of light which would pass through the lens if wide open during the full period of the same exposure."* It is no use having a shutter of high speed if its efficiency is low. Several commercial shutters are constructed to give full-lens aperture for 8-9ths of the exposure, no matter how brief that may be.

The majority of beginners in instantaneous photography have a craze for very high speed shutters, and expose plate after plate on badly-lit subjects with such shutters, and wonder why poor results are obtained. If, like Muybridge, Anschütz, and others, instantaneous photography is taken up as a science—that is, with the purpose of studying the scientific analysis of moving animals—then high-speed shutters are required; for ordinary picture making a shutter working up to 1-50th of a second is quite quick enough.

To decide upon the necessary speed of a shutter to obtain a sharp image of a moving object, certain calculations and tables are necessary; thus it is obviously ridiculous to give 1-50th of a second exposure when 1-10th sec. is sufficient.

* Louis Meldon, "Competitive Papers on Photography."

The following tables will show the rate of motion of moving objects:—

A man walking 3 miles per hour	moves	4½ ft. per second.
A vessel travelling 9 knots per hour	"	6 "
" 12 "	"	15 "
" 17 "	"	19 "
" 20 "	"	28 "
A trotting horse ...	"	35 "
A galloping horse ...	"	39 "
An express train at 38 miles per hour	"	50 "
Flight of a pigeon ...	"	59 "
Waves during a storm ...	"	61 "
Express train at 60 miles per hour	"	65 "
Flight of the swiftest birds...	"	88 "
A cannon ball...	"	264 "
An object moving 1 mile per hour	moves	1½ ft. per second.
" 2 miles "	"	3 "
" 3 "	"	4½ "
" 4 "	"	6 "
" 5 "	"	7½ "
" 6 "	"	9 "
" 7 "	"	10½ "
" 8 "	"	12 "
" 9 "	"	13 "
" 10 "	"	14½ "
" 11 "	"	16 "
" 12 "	"	17½ "
" 13 "	"	19 "
" 14 "	"	20½ "
" 15 "	"	22 "
" 20 "	"	29 "
" 25 "	"	37 "
" 30 "	"	44 "
" 35 "	"	51 "
" 40 "	"	59 "
" 45 "	"	66 "
" 50 "	"	73 "
" 55 "	"	80 "
" 60 "	"	88 "
" 75 "	"	110 "
" 100 "	"	147 "
" 125 "	"	183 "
" 150 "	"	220 "

To find the distance moved by the image of an object on the ground glass, multiply the focus of the lens in inches by the distance in inches moved by the object in one second, and divide the result by the distance of the object in inches. Example: Find the displacement of image on ground glass of an object moving 20 miles an hour with a lens of 8½-in. focus, and the object 150 yards distant.

$$8\frac{1}{2} \times 348 \div 1,880 = \frac{2976}{1880} = 1\frac{3}{5} \text{ in. per sec.}$$

To find how quickly a shutter must act to take an object in motion, that there may be a circle of confusion less than 1-100th inch in diameter, divide the distance of the object by 100 times the focus of the lens, and divide the rapidity of motion of object in inches per second by the result, when you have the longest duration of exposure in fraction of a second. All measurements in inches. Example: Required the speed of a shutter to take an object moving 20 miles per hour, with a lens of 8½-in. focus, the object being 150 yards distant.

The object moves 29 feet = 348 in. per second.

$$1,800, \text{ distance of object in inches, } \div (8\frac{1}{2} \times 100) = 1,800 \div 850 = \frac{36}{17}$$

$$348, \text{ speed of object per second, } \div \frac{36}{17} = \frac{348 \times 17}{36} = \frac{493}{3} = 164.$$

∴ the shutter must work at 1/161 second.

Knowing the rapidity of shutter and moving object, required to find the distance to place the camera to give an image with a circle of confusion less than 1-100th of an inch in diameter. Multiply 100 times the focus of the lens in inches by the space through which the object would pass

during the exposure, and the result is the nearest distance in inches between object and camera. Example: A shutter works at 1/161 sec., object moves four miles an hour; how near must camera be placed with an 8½ in. lens?

An object moving four miles per hour moves 72 in. per second. ∴ an object moving four miles per hour moves 1 1/11 in. in 1/161 sec.

$$8\frac{1}{2} \times 100 \times 1\frac{1}{11} = \frac{17 \times 100 \times 12}{2 \times 11} = 927 \text{ in.} = 25 \text{ yds.}$$

Dr. Eder gives the following table ("Jahrbuch," 1887):—

	Sec.	to	Sec.
Laughing children, etc., probably require	...	1/2	1
Dogs and cats	...	1/2	1 1/2
Street scenes, according to size of figures	...	2/5	3/5
Cattle feeding, sheep, etc.	...	2/5	3/5
Moving ship 500 to 1,000 yards off	...	2/5	3/5
Moving ship nearer	...	2/5	3/5
Animals which appear on focussing screen from one to two inches high	...	2/5	1 1/5
Trotting and jumping horses, birds, etc.	...	1/5	1 1/5 to 1 3/5

Pizzighelli ("Anleitung zur Photographie," p. 83) gives the following useful little table:—

	Men at ordinary walking pace	Men walking quickly.	Men running.	Horse walking.	Horse trotting.	Horse galloping.	Horse jumping.	Steamship in distance.	Train 35 miles an hour.	Express train, 60 miles per hour.
Distance of the moving object, expressed in multiples of focus of lens	Moving a distance in yards per second of									
	1·5	1·6	2·3	1·8	3·8	5·7	12	7	10	16·7
	Requires an exposure in seconds									
100 times focus	—	—	—	—	—	—	—	—	—	—
200 "	1 1/5	1 1/5	—	—	—	—	—	—	—	—
300 "	2/5	2/5	1 1/5	1 1/5	—	—	—	—	—	—
400 "	3/5	3/5	1 1/5	1 1/5	1 1/5	—	—	—	—	—
500 "	3/5	3/5	2/5	2/5	1 1/5	—	—	—	—	—
600 "	2/5	2/5	2/5	2/5	1 1/5	1 1/5	—	—	—	—
700 "	2/5	2/5	2/5	2/5	1 1/5	1 1/5	—	1 1/5	—	—
800 "	2/5	2/5	2/5	2/5	2/5	1 1/5	—	1 1/5	—	—
900 "	1/5	1/5	2/5	2/5	2/5	1 1/5	—	1 1/5	—	—
1,000 "	1/5	1/5	2/5	2/5	2/5	1 1/5	1 1/5	1 1/5	1 1/5	1 1/5

Major Pizzighelli wisely adds that fractions of a second smaller than 1-100th have not been introduced into the above table, probably because the shutters giving shorter exposures than this are not met with every day.

In the first column above, the distances of the object are expressed as multiples of the focal length; the distance in yards is easily reckoned out by multiplying by the focus of lens. Thus an object is 200 times the focus of lens distant, and using an 8½ in. lens, then:

$$8\frac{1}{2} \times 200 = 1,700 \text{ in.} = 44\frac{1}{2} \text{ yards.}$$

These distances must be estimated by measurement or guess work. This latter is by no means difficult to reach, thus the following table, compiled by the same writer, will be of assistance. We assume that the mean height of a man is 5 ft. 9 in., that of a horse 5 ft. 3 in., then when the height of the image of horse and a man appears on the ground-glass as:

Man.	Horse.	The object is distant from the camera.
1½ in.	1½ in.	50 times the focal length.
3/4	3/4	100 "
3/8	3/8	200 "
1/4	1/4	300 "
3/16	3/16	400 "
1/8	1/8	500 "
3/16	3/16	600 "
1/8	1/8	700 "
3/16	3/16	800 "
1/8	1/8	900 "
3/16	3/16	1,000 "

For the sake of convenience, I have carried this table the reverse way, that is to say, giving the distances of the above-named object as less when the height of the image of a man and horse is respectively :

Man.	Horse.	The object is distant from the camera.
1 $\frac{3}{4}$ in.	1 $\frac{1}{2}$ in.	40 times the focal length.
2 $\frac{5}{8}$	2 $\frac{1}{8}$	30 "
2 $\frac{1}{2}$	2 $\frac{3}{8}$	24 "
3 $\frac{7}{8}$	3 $\frac{1}{8}$	20 "
3 $\frac{1}{2}$	3 $\frac{1}{2}$	18 "
4 $\frac{5}{8}$	3 $\frac{3}{4}$	16 "
5	4 $\frac{1}{2}$	14 "

Another table compiled by MM. Henry Hermagis and Rossignol is also convenient :—

Distance in yards.	Subject.	Approx. speed of shutter in seconds.	Approx. Reduction.	Approx. height of man in inches.
3 $\frac{1}{2}$	Standing children or half-length men with heads about $\frac{3}{4}$ inch from top to chin	$\frac{1}{10}$	$\frac{1}{10}$	—
7 $\frac{1}{2}$	See-saw, skipping children, etc.*	$\frac{1}{20}$ to $\frac{1}{40}$	$\frac{1}{25}$	2 $\frac{1}{4}$ to 2 $\frac{3}{4}$
12 to 16 $\frac{1}{2}$	Horse walking, dancers†	$\frac{1}{20}$ to $\frac{1}{100}$	$\frac{1}{40}$ to $\frac{1}{80}$	1 $\frac{1}{2}$ to 1 $\frac{1}{2}$
12 to 24	Acrobats, clowns, dancers, etc.†	$\frac{1}{20}$ to $\frac{1}{100}$	$\frac{1}{40}$ to $\frac{1}{80}$	$\frac{3}{4}$ to 1 $\frac{1}{2}$
15 to 20	Moving people, but not walking about—crowds, bathers	$\frac{1}{20}$ to $\frac{1}{40}$	$\frac{1}{20}$ to $\frac{1}{40}$	1 to 1 $\frac{1}{2}$
18 $\frac{1}{2}$ to 30	People walking, soldiers quick-marching†	$\frac{1}{100}$	$\frac{1}{60}$ to $\frac{1}{100}$	$\frac{1}{2}$ to 1 $\frac{1}{2}$
22 to 32	People, troops, yachts, tramway cars‡	$\frac{1}{100}$	$\frac{1}{70}$ to $\frac{1}{110}$	$\frac{1}{2}$ to $\frac{3}{4}$
27	Horse trotting, infantry charging, runners‡	$\frac{1}{10}$ to $\frac{1}{20}$	$\frac{1}{100}$	$\frac{1}{2}$
33	Calm sea, ships, at rest or moving‡	$\frac{1}{50}$	$\frac{1}{110}$	$\frac{1}{2}$
43	People or troops ¶.....	$\frac{1}{50}$	$\frac{1}{120}$	$\frac{2}{3}$
50	Galloping horse *.....	$\frac{1}{100}$	$\frac{1}{120}$	$\frac{1}{4}$
59	Train (35 miles per hour), tricycle, sledge†	$\frac{1}{100}$	$\frac{1}{200}$	$\frac{1}{4}$
70 to 75	Express train, balloon, storm waves, greyhound coursing, skater, racehorse, dynamite explosion	$\frac{1}{100}$ to $\frac{1}{150}$	$\frac{1}{200}$	$\frac{1}{5}$

* The exposure to be made at the moment of partial rest or least movement.

† Object moving across the field of view.

‡ Object moving across the plate.

¶ Object moving to or from lens or only slightly across.

The secret of successful results with instantaneous work is to watch the moving object till it attains that position which the French call *le point mort*, and which is well seen in the case of a ball thrown perpendicularly up into the air. For some time the ball travels up, and then just for one almost inappreciable period of time it is stationary, and begins its downward course, and an exposure should be made just at the moment of reversal of motion. It will be found that with nearly every moving object some such *point mort* will occur, and the successful worker seizes this moment to fire off. Too many amateurs allow their very laudable ambition to run away with their sense, and expect the combination of shutter, lens, and plate to do impossibilities. For very quick work, brilliant sunshine is absolutely necessary, and two important points should be taken into consideration—(1) That the nearer a moving object is, the more rapid must be the action of what is called the shutter, which, by way of parenthesis, might with equal force be termed an opener; (2) The longer the focus of the lens, the quicker the shutter should act. Another point is that

when an object is moving across the field of view, or more or less obliquely to the axis of the lens, the shutter must act more quickly, whilst with an object moving parallel to the axis of the lens, or away from or towards the lens, the displacement on the ground glass or the difference between the size of the image at two points is by no means so great as in the first case; and to improve matters the theoretical impossibility, the depth of focus of the lens, is again of assistance.

Many commercial shutters are fitted with an index showing the speed given by the shutter when certain levers, etc., are placed in certain positions, but strict reliance cannot always be placed upon such speeds. Methods of testing instantaneous shutters will be treated of under that heading.

A novelty in the regulating mechanism of shutters has lately been introduced in England by the Thornton-Pickard Manufacturing Company, which consists of a fan which regulates the rapidity of the shutter by the resistance it presents to the air. Other makers use various devices, but one of the most successful is the pneumatic brake of Mr. Newman.



Instantaneous Photography.

By W. JEROME HARRISON, F.G.S.

CHAPTER XV.

DEVELOPMENT—Continued.

Development with Pyro-Ammonia.—We take the pyro-ammonia developer first because it is our favourite. We consider that a better average result and a better printing negative can be got with this developer than with any other. The developer consists of three ingredients :—

1. *Pyrogallie Acid*—the actual developer. Amount to be used, from a quarter of a grain to four grains per ounce; standard, two grains. Increase of pyro—up to a certain amount—increases contrast and gives density. "Pyro" is not really an acid; its proper chemical name is *Pyrogallol*.

2. *Ammonia*—the "volatile alkali." The liquid "ammonia" sold at the shops is a solution of ammonia gas in water. Its strength is best indicated by its specific gravity, which should be (as purchased) .880, water (the standard) being = 1. Ammonia of this strength loses some of its gas every time the bottle is opened. The best plan, therefore, is to dilute it as soon as purchased. Get a good stoppered quart bottle; place in it a pint of distilled and boiled water, and add to it the contents of a pint bottle of ammonia. This is the "stock solution."

The ammonia to be used while developing may vary from a quarter of a minim (of the strong or .880 liquid) to four minims per ounce. Much depends, however, upon the plate; some makes will not stand the four minims per ounce without fogging, while with others—if the ammonia be added very gradually, and if a due percentage of restrainer be also present—the plate may bear five or even six minims of ammonia per ounce of liquid developer.

3. *Potassium Bromide*.—The action of ammonia—in any but the very smallest quantities—so stimulates the pyro that the silver bromide which has not been acted upon by light is attacked, *as well as* that which has been reduced by light to the state of sub-bromide of silver. The result, of course, is a general fogging or darkening of the plate. But if a soluble bromide—preferably potassium bromide—be mixed with the pyro-ammonia developer, a considerable quantity of ammonia can be used without this "fogging" taking place. How is this to be explained? Chemists believe that

the soluble bromide forms a kind of compound—a double salt—with the silver bromide; and this double salt is far better able to *resist* the action of the developer than the silver bromide alone.

The amount of potassium bromide used per ounce may vary from a quarter of a grain per ounce to four grains. For instantaneous work it will generally be better to keep the amount under one grain per ounce.

Preparation of the Developer.—We strongly recommend that the three ingredients of the pyro-ammonia developer just described be kept separately. The ammonia and the potassium bromide should be used in the form of ten per cent. solutions, and should be kept in stoppered bottles. The water used in developing, and in making the developing solution, should be *distilled* water which has been *boiled* in a glass flask for half an hour, and then allowed to cool. Distilled water is pure, and it can be bought so cheaply (three pence per quart at any chemist's) that it should *always* be used in developing and in toning. By boiling it is freed from dissolved air; it then discolours but little during development, and so the negative is but little stained. A very slight yellow or orange coloration equally affecting the whole negative, is, in our opinion, rather to be preferred, inasmuch as it improves the printing quality of the negative.

For instantaneous work we prefer our pyro—as Cromwell liked his gunpowder—dry. It is true that the addition of sulphite of soda gives clear negatives; but that it has a retarding effect, and tends to reduce detail, has been made clear to us by repeated experiments. For ordinary work we are very fond of the “sulpho-pyrogallol,” or mixture of pyro and sulphite of soda; but where there is a fear of under-exposure we prefer to use dry pyro alone.

Mixing the Developer.—The quantity of developing solution should not be less than two ounces for a quarter-plate and four ounces for a whole-plate dish. It is our practice with hand-camera exposures to develop four quarter-plates at once, using a whole-plate dish. Let us suppose the latter plan to be adopted. Weigh out two grains of dry pyro (a bone mustard spoon is convenient to handle the pyro with, and the quantity can be guessed with fair correctness after the scales have been used a few times). Place the dry pyro in a stout glass tumbler, and pour upon it four ounces of boiled distilled water. Then add ten minims of a ten per cent. solution of potassium bromide, and twenty minims of a similar solution of ammonia.

We now have a developer composed as follows:—

Pyro	..	..	..	..	..	$\frac{1}{2}$ gr.
Ammonia	..	..	..	..	..	$\frac{1}{2}$ minim.
Potassium bromide	..	..	..	..	..	$\frac{1}{4}$ gr.
Water	..	..	..	..	..	1 oz.

Stir this up well with a glass rod to ensure the mixing of the several ingredients.

How to Develop.—For the extremely rapid plates generally employed in instantaneous work we prefer to use the light of a ruby lamp. There should be a sheet of ground glass in addition to the red glass in the front of the lamp; this diffuses the light and makes it much pleasanter. Daylight admitted through coloured glass should never be used; it is too fluctuating and too powerful. The developing room should be of a good size, not like the wretched little cupboards in which some people seem to prefer to work. It is a good plan to use an ordinary room, blocking out the light by means of opaque curtains made up of two thicknesses of red and black twill. These should be a few inches longer each way than the windows which they are to cover. They should be provided with eyelet-holes at the corners, and can then be attached in a minute to hooks or nails driven into the wooden framework of the windows, and the room darkened almost instantly.

Always sit while developing, and have a fair-sized table (say 5 ft. by 2 ft.) to develop upon. Arrange your materials in a systematic way—the red lamp on the right hand, elevated a few inches on a wooden block; developing dish in front of operator; hypo dish on left hand; deep basin containing water (to rinse plates in) also on left hand; bottles of solution, measures, etc., behind the developing dish. Although convenient, it is not in the least necessary to have water laid on to the developing room, or to have a sink there. It is only necessary to well rinse the plates between developing and fixing. The plates (after fixing) can then be carried out of the room and washed elsewhere. The room should be warm and comfortable. The solutions employed should be at a temperature of about 62 deg. F. In winter warm water should be used in making up the developing solution, so that uniformity of action may be expected.

In addition to the solutions named, it is convenient to have upon the developing table two small bottles each fitted with a cork, through which a small camel-hair brush is passed, and containing solutions of ammonia and of potassium bromide, made by mixing a portion (say, one ounce) of each of the ten per cent. solutions of these substances already mentioned with twice its bulk of water. These will be useful for local application to the negative during development.

All being ready, place the plate or plates in the developing dish (which should be, preferably, of vulcanite) and pour the weak developer over it. With a broad camel-hair brush gently stroke the surface of the plate to remove any air-bells. Then cover the dish with a sheet of stout cardboard (about two inches larger each way than the dish), rock the dish gently, and take a peep at it every half-minute or so.

Consistent Naturalism in Photography.

BY LYDELL SAWYER.

REFERRING to an article on “How our Leaders Work,” published by a contemporary, and to which allusion was made in the issue of THE AMATEUR PHOTOGRAPHER of September 11th, I notice the following statement is included in it: “In a little box near the camera she keeps an assortment of colours and useful oddments, including, of course, a pair of spectacles without glasses.”

As this use of spectacle frames to represent real glasses is a very generally resorted to expedient amongst photographers, I feel there is room without discourtesy on my part to raise some objection to this very mischievous and false practice. I cannot, indeed, understand how any professional worker can fail to notice for any length of time the many drawbacks to this course of proceeding.

In the first place, all eye-glasses—or at least all of them which are worn for utility—have some convexity or concavity of surface, which alters the actual appearance of size of the eye, and in this respect the bare frames do not represent the sitter as usually seen. Then of more importance still is the fact that if the eye is regularly habituated to seeing through glasses, the expression, and even the size of the pupil, in many cases is changed when the glasses are removed. The normal repose of the eye, engendered by regular circumstances, is disturbed and gives place to a palpable vacancy, weakness and abnormal puckering up of the eyelids, with modifications according to the actual requirement for glasses, which occurring in this vital source of likeness is fatal to any attempt at a true impression of the sitter.

Better by far let the glasses show some reflected light in the picture; it would at least be true naturalism, and in many cases improve the likeness. This, at any rate, is the preference I should have in the matter, but at the same time I know the exacting limitations a professional portrait photographer suffers from, due to the universal vanity in his clients, and this weakness makes it rare when he can indulge in much of this class of accentuation of

character. But there is the modified alternative of selecting those positions where little or no reflection is visible, and they may be easily calculated.

Full face is all right. The angles of incidence and reflection being about parallel here, it is the comparatively dark camera itself which is reflected; or, in an ordinary side-lighted studio, the head may be turned towards the light to just within that point where the side-light itself would be reflected. And again, in many cases, nearly side-face, looking towards the light, may be arranged to be free from glare by placing the sitter well back from the light and getting the angle of incidence from the dark background itself. In looking down towards a dark floor the glasses are also usually free from reflected glare; therefore, with all this and more selection, I hold that there is no excuse for the photographer resorting to the false and unnecessary practice of employing empty spectacle frames.

As to this lady photographer's further methods in the studio which have been brought into such prominence by the same contemporary, I am afraid I cannot support such wholesale regeneration. Let us hope that the interviewer has, perhaps involuntarily, exaggerated the state of things in his desire to give force to his article. But at the same time, when controlled by a duly experienced artist, there are, though certainly in a very much more limited degree, still a number of those dodges which may be very sensibly utilised to represent truthful naturalism. A maxim which has much force photographically is that "the end justifies the means."

When Professor Muybridge first showed us in his instantaneous photographs the eccentric positions which horses' legs assumed, it was absurdly concluded by many that artists would have to reduce their methods and postures in painting animals to the same formula. Of course, nothing of the kind could occur. It is clearly their province in producing pictures to represent the general impressions as conveyed ordinarily to the human eye by the same objects, whatever divergence there may be in actual fact as beyond human vision. And I contend that a portrait photographer with experience and artistic instincts will find and claim the necessity to exercise much the same discretion in another direction.

It must be remembered that there is action and ever varying motion in life which cloaks over and less or more conceals a vast number of defects, and these shortcomings, when laid cruelly bare by the cold, motionless analysing power of the lens and farther accentuated by the usual nervousness of the sitter—which always intensifies the appearance of any weakness by prostration—do not give the general impression as usually seen in the subject in everyday life.

An uneven shoulder, a drooping eyelid, a one-sided mouth, a short upper lip, incipient paralytic markings in the face, these and similar defects in many cases are little or never noticed in life, whilst they come out most pronouncedly in photographic portraiture and cause the sitter to indignantly reprimand the photographer when the proofs are seen.

The eyelashes are often entirely absent in a photograph; eyebrows and slender moustaches when photographically delineated are sadly attenuated. They palpably exist in life, but not in the photograph. A person's light auburn hair comes out dark; the photograph of an apparently clear-skinned girl is covered with freckles. What would Mr. Purist do in these cases? As they are it is not truth, and that he professes to aim at. An artist would pencil the eyebrows, powder the hair, retouch the freckles, dodge the expressions, or use whatever other powers he had at hand to represent truthfully what general impression was apparent in the life.

It is simply a matter of *use* and *abuse*, and he would be as equally devoid of artistic discretion and grasp of true naturalism who wallowed in a short-sighted policy of freckles, as the other extreme worker who bedaubed his model with a rash or inexperienced hand. Consistent naturalism is surely that of getting nearest to the *average* impression created by the sitter on his friends; here comes in the greatest truth, and, as faithfully representing it—by whatever means it may be—the honest art.

A latter day "purist," "naturalist," "impressionist," or whatever else his latest title may be, would profess to glory in turning up a sallow face to a flat, full light, and brim it over with sickly biliousness; he would further tip-tilt a gimby nose, or bring out a high cheek-bone and hollow cheek in three-quarter face against a dark ground, lay back an obese figure *en face*, obtaining the redundancy of a barrel, and with Pecksniffian grace he would

claim adoration for the amount of "character" he had delineated! With such "character" producing powers, he *might* be of assistance to Harry Furniss, but as a portrait photographer he would be a failure. The man in possession would shortly be holding high old carnival in his reception room, whilst the deservedly sadder and, let us hope, wiser photographer found food and time for reflection on the subject of a callous world in the matters of "pure" art.

How I Started a Successful Society.

BY A PROVINCIAL.

(Continued from page 203.)

The point at which I last left off was where, a *pro tem.* committee having been appointed, the inaugural meeting adjourned for three weeks.

Now, whenever an entirely new association is called into life it follows that there will for some time be a huge consumption of mis-spent energy, by reason of an inevitable want of familiarity between those who form the executive. Until their various idiosyncrasies have been reciprocally "learned and coned by rote," and their particular forms and amounts of ability or experience recognised, a chronic condition of muddle is more than likely. Do not, therefore, at first starting off expect all things to work with unfailing smoothness and regularity; on the contrary, look out for a tolerable amount of friction and irregularity, and be forearmed to readjust such parts of the newly-made machine as require attention; in most cases I think it will be found that a little oil compounded of suavity and tact will do all that is wanted.

It is well to bear in mind Pope's couplet—

"Men must be taught as if you taught them not,—
And things unknown proposed as things forgot."

This want of adjustment in the machinery entails a like want of expedition in the transaction of business matters; hence I advise that the *pro tem.* committee should concern themselves with as little as possible; they are working under great difficulties, and should not be ambitious to do mighty things.

The first matter which our *pro tem.* committee took in hand was the drafting of the laws under which the society should be governed.

To aid us in our deliberations we obtained from the hon. secs. of various societies domiciled in towns similar in size to ours, copies of their rules. Those of the Hastings Society, the Brighton Society, or of the Croydon Camera Club are very suitable for adoption by medium-sized associations, although possibly not voluminous or explicit enough for some of the larger ones. A letter of inquiry to the secretaries of either of the before-mentioned will, I know, receive courteous attention.

As a short way out of our troubles one of our committee proposed that we should adopt an entire set of rules in use by one of the other provincial associations. This, no doubt, was a delightfully easy solution, but we, nevertheless, in spite of the extra labour involved, preferred a set of rules made to measure, and not a cheap "reach me down," which would probably never thoroughly fit our particular needs.

It is not worth while to burden these articles by printing our rules *in extenso*, but, for the benefit of other folk who have to draft rules, subjoined is a list of the titles of the chief ones eventually authorised by our society:

Name; object; management; members; honorary members; subscriptions; arrears; meetings, ordinary, special, annual; election of officers; order of business; expulsion.

The above synopsis includes all that in most cases will be wanted.

This section of our labours finished, not, however, without a large expenditure of desultory talk, we proceeded to view different rooms, and engaged a temporary one for our fortnightly meetings; we also made such arrangements as we were able, to provide suitable technical attractions, in the shape of papers and demonstrations, for the first few weeks, in order that time should not be lost while the permanent officials were getting to work.

The next subject attacked was the somewhat difficult and perhaps vital task of making out a list of those recommended for election on the executive.

It may seem to some that this is an usurpation of the preroga-

tive of the members at large, but the adjourned meeting could hardly be expected to make a suitable selection without some preliminary rough-hewing on the part of the *pro tem.* committee.

Even in an old-established society there is at times apt to be some perplexity in settling upon the proper men for the various posts of responsibility, much more so is this the case with a newly-formed one; especially as at times the right and suitable man will not accept office. The reader can take my word for it, unless he prefers to learn by experience, that with a new society the round man in the square hole is sure to happen; and, moreover, it is not by any means unlikely that several get elected on to the board of management who won't fit any hole at all, let its shape be what it may. These individuals of course clog the wheels of action; fortunately they don't stay long, but soon discover that they are out of their element and retire, which of course is the best thing they can do, although none the less in the abstract injurious, outsiders regarding it as a sign of instability or disagreement amongst those in high places.

The system on which the executive should be elected was settled as follows: The chief officers were first chosen in the following order: President, Treasurer, Honorary Secretary, and Assistant Secretary. Candidates for either of the above posts could be nominated by any member, or could nominate themselves. The election to be by show of hands unless any one or more members demanded a ballot. The permanent committee was elected by list; that is to say if more than six (the full number to be elected) were nominated, the names would be written on as many sheets of paper as there were voters; each of which puts a cross against those six he is in favour of.

I should mention that our permanent committee numbers eight, but it was thought well to leave two vacancies unfilled, so that there should be room for suitable workers who might subsequently be enrolled. It will be seen then that our executive, when fully constituted, included a round dozen, which may seem in excess of what is needful; but our experience shows that the above are none too many to carry out the multifarious and incessant operations of an active society; committee-men with the best of intentions are at times very erratic in their attendances, and during the early autumn, with even twelve to draw upon, a quorum of four is not always attainable. For similar reasons we arranged to have a brace of secretaries, so that when illness, private business, or prolonged absence prevented one, the other might be in reserve to take charge of the pen and ink department. It must not be forgotten that a numerous committee means variety in suggestion and in capacity, both valuable desiderata.

In order that as large an attendance of members as possible should be drawn to the meeting at which the election was to be held, in addition to advertising and otherwise announcing it, we provided the best attraction which at short notice we could think of. We were fortunate enough to obtain the loan of a set of THE AMATEUR PHOTOGRAPHER monthly competition prints; and found that not only did they materially help to bring the people together, but also served to profitably and agreeably occupy their attention during those long "waits" inseparable from a general election evening; those in command under like circumstances cannot, I feel sure, do better than ask our enterprising editor to lend them a similar collection.

We know upon high authority that adversity makes us acquainted with strange bedfellows; certainly a newly-formed society introduces us to odd personages, for much the same reason, I suppose, that a newly-formed garden produces flowers not found in older ones.

I use the word odd in no disparaging sense, but to intimate that those who take an active part in organising an association cannot fail to come in contact with many who are interesting on account of the delightful diversity of thought, speech, action, and manners they exhibit. In point of fact, a good deal more than photography is learnt by assisting in the affairs of such institutions, and much as some folk grudge the trouble and the thought attached to the business of committee work, or shirk the winter nights' walk to attend a demonstration, the occupation is a wholesome and vivifying one, not merely augmenting the amateur's photographic expertness, but building up his character and sharpening his wits. Would that isolated workers took to themselves Lord Tennyson's noble stanza:—

"I will not shut me from my kind,
And, lest I stiffen into stone,
I will not eat my heart alone,
Nor feed with sighs a passing wind."

For my purpose the last line is pointless, but it would have required a barbarian to mutilate the quatrain.

Reverting to odd personages, while we were busy trying to find suitable officers, an applicant wishing to join the society called on me, and was in due course enrolled. I found him most enthusiastic; he offered to accept office or not, and could not do too much for us; within a week of our adjourned meeting he resigned! Ho of course made an excuse (of a personal nature). Another gave me a vast amount of trouble by repeatedly writing to ask all kinds of hypothetical questions, most of which time and circumstances could alone solve. He attended our first two meetings, where he sat

"With eyes severe, and beard of formal cut,"

judicially weighing the oftentimes words without weight. At the close of the second meeting I asked him whether I should propose him, but he begged for more time to consider the matter; need I say with what result?

By way of contrast let me say a few words about my early supporters. I found a very useful nucleus amongst those who are commercially interested in photographic apparatus and chemicals; it will generally be found that these will help support a society by becoming members, and it is very sound policy for them to do so. Local professionals are not in the first instance so ready, as a class, to help forward such a movement, which reminds me that a gentleman of large experience advised me on no account to allow "pro's" to take any active part in the affairs of our society. I, however, took upon myself to disregard this well-meant warning, and can only say that we have always found our professional brethren very ready to help us by advice and in other ways. I recall a memorable exception, which I shall, however, refrain from enlarging on. But by far the largest proportion of solid and lasting support has been given by the great middle class, the British *bourgeoisie*.

Nevertheless, I have noticed that in some quarters there exists a strong feeling that photography was meant exclusively for the "gentry"; or, if not photography, certainly photographic societies, and that only those who go to work in top hats should be encouraged to join.

These are not my views; paraphrasing William Morris, "I do not want photography for the few any more than freedom for the few."

If our art science is to be anything more than a passing fancy, if it is to take a strong, deep hold upon the nation, it must be broad based on the people; *ergo*, so must photographic societies. Then, just as cricket and football develop our muscular powers, so will photography in time awaken in our masses their long-dormant artistic faculties, and quicken into life that deficient sense of beauty which, alas! our people still greatly lack. Once this appreciation of art is acquired there will be no need to tremble lest photography pass out of fashion any more than our strong-limbed race need fear for the future of athletics.

But I repeat it is just as reasonable to expect photography to thrive if solely in the hands of the leisured classes, as it would be to hope for cricket if restricted to the nobility. "And the moral of that is," as the Duchess in Wonderland would say, don't neglect the small fry, but make your meshes sufficiently fine to catch the humble student. You may, peradventure, thereby lose a few big fish, but depend upon it they won't be big in brains. These opinions of mine may be very heterodox and, perhaps, ill-founded, but it is a stubborn fact that our successful society owes its prosperity almost entirely to those who toil early and late, and who have to carefully contrive in order to find time for society work.

Our adjourned meeting passed off in the same successful manner as the first one; we had a full attendance, and after the usual discussion and amendments (which latter were but few), we adopted a set of rules, and duly elected our executive.

Ever since the initiation of the movement, I had freely given all the leisure and thought at my disposal to the work of organising, and had looked forward to the time when the society became constituted as the termination of my labours, reasonably anticipating that there would be no trouble in finding plenty of members who would between them undertake the management without any help from me, except such occasional assistance which I might give as a committeeman. But in this forecast I was in error, for it soon became palpable that, for want of a better candidate, I should have to take on my shoulders the honourable, but anxious office of president. I had sought in

various directions for a strong and suitable man, but no one specially marked out for the position was available, and I concluded that it would be best not to press the appointment upon one of the rank and file, who might, for aught I could prophesy, do more harm than enough. I mention this because, of course, anyone who resolves to start a society should make up his mind to stop any gap in his own person if necessary. Therefore, unless the promoter can in advance obtain the promise of someone fitted for the presidency, he should himself feel qualified to assume the reins of government.

I would here say that, as the election of the various officers came on, I shortly defined the duties attaching to their respective appointments, and asked each candidate if he would undertake them; this is a formality which should not be omitted.

In my next I propose to say a few words about the duties of the chief officer, and recount how we catered for our members, and what steps we took to increase our numbers.



A New Method of Increasing the Light-Sensitiveness of Asphalt.

BY E. VALENTA.

(A Communication from the "K. K. Lehr und Versuchsanstalt für Photographie und Reproductionsverfahren in Vienna.")

OF all the asphalts which occur naturally, the Syrian is the one most used, although without doubt other kinds of asphalt show a more or less noteworthy light-sensitiveness.

The experiments to utilise asphalt for heliographic etchings on metal are almost as old as photography itself, and the oldest experiments which Niepce made for the preparation of photographic pictures were performed with asphalt.* Niepce used the asphalt dissolved in oil of lavender and spread in a thin film on polished metal plates for the preparation of photographic pictures in the camera obscura. The duration of the action of light was naturally very long, and the pictures thus obtained left much to be desired.

The later experimentalists, especially the nephew of the above-named Niepce de St. Victor, closely studied the asphalt method, and endeavoured to increase the sensitiveness of the film and thus to reduce the duration of the action of light as far as possible. On the 23rd May, 1853, Niepce de St. Victor presented to the Paris Academy his first treatise on this subject. He dissolved the asphalt in oil of lavender, coated a steel plate with it, and developed the image formed on it by light with a mixture of three parts of rectified petroleum and one part of coal-tar benzin. On the 23rd October, 1853, he described a solution of asphalt, to which a fifth of its weight in wax had been added, in benzene as a light-sensitive varnish. There he gave, for the first time, a process of increasing the sensitiveness of the asphalt, since he flooded the plate coated with the film of asphalt with anhydrous sulphuric ether to which a few drops of oil of lavender had been added. Niepce observed that by this treatment (by which obviously any constituent of the asphalt which was prejudicial to its light-sensitiveness was partly washed off) the sensitiveness of the film was actually increased. Oil of lavender instead of benzin for the preparation of the asphalt varnish gave him more sensitive preparations, which, however, had the fault of very slow drying. In a third treatise which Niepce published on the 2nd October, 1854, he tried to attain the above end in another way, since he dissolved the powdered asphalt in benzole after a day's exposure to the action of light and air, by which process it was made more sensitive, or he obtained the same effect by exposing the varnish itself for a shorter time, three hours, to the action of sunlight in an open vessel. As solvent for the asphalt, Niepce used benzole, to which he added about 10 per cent. of oil of lavender, or better still oil of lemon, by which addition the sensitiveness was increased and the film made more elastic. Niepce recommended a 2 per cent. asphalt solution and a mixture of five parts of petroleum with one part of benzole as developer. The next important work was undertaken by Dr. R. Kayser, of Nuremberg ("Untersuchungen über Natürliche Asphalte," Nürnberg, 1879, F. Korn). R. Kayser did not trouble himself with experiments which had for their

purpose the increase of the light-sensitiveness, but separated by analysis the asphalt into three constituents, which were separated by their solubility in three different solvents.

He treated the powdered Syrian asphalt with boiling spirit (sp. gr. 0.835), and extracted from it by this means 4 per cent. of an oily yellowish brown substance smelling of bitumen. This had a composition of $C_{32}H_{46}S$, which corresponds to 6.97 per cent. of sulphur. The marc from the treatment with boiling spirit was extracted with boiling ether (sp. gr. 0.725), by which 44 per cent. by weight of the raw asphalt was dissolved. The part soluble in ether was a brownish-black resinous mass without smell, which melted at 65 deg. C. Its composition corresponded to the formula $C_{64}H_{82}S_3$, which gave a proportion of 10.04 per cent. of sulphur.

The constituent, insoluble in ether and alcohol, which dissolves easily in chloroform and benzole, with greater difficulty in turpentine and petroleum, is a resinous, brittle, odourless black mass which melts at 156 deg. C. This corresponds to a formula of $C_{32}H_{42}S_2$, or a proportion of 13.06 per cent. of sulphur.

The first resin, soluble in alcohol, which we will, for brevity sake, call A resin, is not light-sensitive; only the two other resins (B and C) are sensitive to light, and Kayser found that the A resin, insoluble in alcohol and ether, possessed the greater sensitiveness.

These researches resulted in the separation of asphalt into its constituents for photographic practice, and the use of the light-sensitive variety only.

There are three principal methods:

(1) Solution of the asphalt in chloroform and precipitation with three to five times the quantity of ether.*

(2) Washing the powdered raw asphalt with ether, and the use of the dried marc for the preparation of the light-sensitive varnish. (R. Kayser's method.)

(3) Solution of the powdered raw asphalt in the least quantity of German turpentine, and precipitation with several times the quantity of ether. (Husnik's method.)†

My own researches, to make several resins light sensitive by the incorporation of sulphur, or the light-sensitiveness of asphalt by the said treatment to increase.

Kayser's above-named researches have proved that Syrian asphalt in all its constituents contains sulphur, and the light-sensitiveness increases with the proportion of sulphur. The A resin is the most sensitive, and the sensitiveness of the asphalt stands in intimate connection with the greater or lesser presence of this resin in the asphalt.

With my experiments I set myself the problem to make the Syrian asphalt, as a whole, at least, as light-sensitive as the up till now known light-sensitive preparation of asphalt, where possible, however, the sensitiveness of the same to increase, so that it should surpass that of the known preparation.

Observation that colophony and other resins may be made light-sensitive by the action of sulphur.

The previously stated fact that the light-sensitiveness of the asphalt stands in intimate relation to the proportion of sulphur, induced me to try whether it was not possible to make other resins—such as the coniferous resins—sensitive to light by suitable treatment with sulphur.‡

When colophony is melted and about 15 per cent. of sulphur introduced into the clear liquid mass, it dissolves completely. If the temperature is increased above 180 deg. C., the mass becomes brown with the evolution of sulphuretted hydrogen, becomes dark coloured, and, after a few hours, quite black. The evolution of gas is then slower and finally ceases almost entirely.

If this is now allowed to cool, a black, pitch-like, shiny mass is obtained of conchoidal fracture and unpleasant smell, which contains sulphur, and shows different behaviour as regards solubility to the original colophony.

If 4 gr. of this mass are dissolved in 100 c.cm of benzole or chloroform, a deep brown, clear solution is obtained, which, poured on sheet-zinc, gives, after drying, a thin golden-yellow film of resin. If this film is exposed to direct sunlight for a sufficiently long time under a suitable matrix, a picture is obtained after development with oil (and some French turpen-

* "Photo. Corresp.," 1880, p. 241; "Mon. de la Phot.," 1880, p. 176.

† "Photo. Corresp.," 1881, p. 95.

‡ "Photo. Notizen," 1886, p. 3.

§ "Centralorgan für Waarenkunde und Technologie," vol. i., p. 19.

* J. M. Eder's "Geschichte der Photographie" (Ausführlich. Handbuch der Phot., 1891, vol. i., p. 118).

time), which, however, does not show much power of resistance to dilute acids, which is peculiar to the asphalt pictures. This disadvantage and the proportionately low sensitiveness of the preparation make it unsuitable for the purpose of photographic zinc etching.

My trials were naturally now directed to the incorporation of sulphur with the natural asphalt and the increase of the light-sensitiveness of the same.

My experiments to make raw asphalt more light-sensitive by the incorporation of sulphur.

For these experiments I first used Syrian asphalt, which appeared to me to be the most suitable. The asphalt used by me was brown, of glassy fracture and matt surface; when rubbed, it gave a chocolate-brown powder, which dissolved easily in benzole. The benzole solution left behind a film of varnish, which gave no image under a matrix in ten minutes' exposure to sunlight, but only after about one hour's exposure. The asphalt dissolved with difficulty in alcohol, tolerably easily in ether, with a residue, which was completely soluble in chloroform or benzole.

I first tried to set to work in a similar way as described with colophony, but this method of incorporating the sulphur did not prove practical, as the asphalt melted with great difficulty, and incompletely, and carbonised before it formed an even melted mixture with the sulphur.

I tried now to make the asphalt more easily liquid by adding turpentine to it. The solution was raised to the boiling point of turpentine oil, 164 deg. C.; after the greatest part of the turpentine had evaporated, about 7 to 8 per cent. of sulphur was added, and heated to 250 deg. C. There was a lively evolution of sulphuretted hydrogen, the resin remaining behind in the crucible was a deep black, shining like coal, and dissolved tolerably easily in benzole. By trial printings which were made with this an increase of sensitiveness could already be observed, but not in the desired degree; the film was also sticky, which caused an adherence of the matrix, and probably was caused by the formation of sulphur compounds with the turpentine. The result of this experience was that I altered my procedure by omitting the use of the turpentine as well as the high temperature, and now proceeded as described as follows:—

About 10 grammes of flowers of sulphur were dissolved in bisulphide of carbon, and to this solution, in an alembic, 100 grammes of powdered asphalt added. After some time, the asphalt had completely dissolved. A small portion of the dark-brown liquid thus obtained was taken out with a pipette, the bisulphide of carbon allowed to evaporate, the resin remaining behind dissolved in benzole, and this solution poured on a zinc plate. The asphalt film did not show greater light-sensitiveness than the raw asphalt; the addition of sulphur then at ordinary temperatures did not produce any increase of the light-sensitiveness of asphalt. The solution of asphalt and sulphur in bisulphide of carbon was now distilled, and the residue heated for a long time on a water bath. A test showed already an important increase of the light-sensitiveness of the asphalt in this condition over the raw asphalt. The mass was now removed from the water bath, and slowly treated in an air bath, over 180 deg. C., till sulphuretted hydrogen began to be evolved, at which temperature the mixture was kept for several hours. During this time sulphuretted hydrogen continuously escaped without the burnt product being formed, the appearance of which is a sign of overheating which must always be avoided.

The asphalt treated in the described way presents a black shiny mass, which does not dissolve in alcohol, only in small quantities in ether, but completely in oil of turpentine, benzole, chloroform, and bisulphide of carbon. The varnish prepared from this by dissolving four parts of the preparation in 100 parts of coal-tar benzole gives when poured upon zinc plates a golden-yellow, thin film of asphalt of proportionately greater sensitiveness to light, and this gives with short exposure under a good printing matrix after development with oil of turpentine clear and sharp pictures.

The Development of the Asphalt Image.

The development of the pictures obtained by the aid of sulphurised asphalt cannot be effected with any turpentine, whilst pictures made with the so-called light-sensitive Husnik's asphalt can only be developed with German oil of turpentine (known in the Vienna market under the name of Hungarian or Russian). I used for my experiments only the above sorts,

French oil (develops slowly and clear), Austrian and American oil of turpentine, the latter in the rectified condition as spirit of turpentine. I have more nearly studied these oils for the purposes of other work, and give in the following table some data on the index of refraction and rotation of the plane of polarisation (observed in Mitscherlich's apparatus with tube of 200 mm. length), since I believe that the same are characteristic for these oils:—

	Index of Refraction.	Rotation in degs.	Temperature.
Neustadt turpentine, sample 1	1.46504	+106	29.5° C.
" " " 2	1.46306	+101	"
French turpentine	1.46603	-39.5	"
American turpentine, sample 1	1.46644	+6	"
" " " 2	1.46693	+21	"
Hungarian turpentine	1.46791	+43	"
Russian "	1.46820	+39.5	"

Oil of turpentine in the unrectified state contains generally free resinous acids, formic acid, etc., in order to free it from which it is shaken up with carbonate of potash. It is better, however, to use rectified oil, which is almost free from acid. After about ten minutes' exposure to direct sunlight, the plate is allowed to cool, and flooded in a dish with spirit of turpentine. The image appears very quickly, and develops absolutely clear. When the bare metal of the plate becomes visible, the development is stopped, the plate well washed under a stream of water, and exposed to sunlight to harden the image, after which the image is gummed.

Comparison of the Sensitiveness of Sulphurised Asphalt with other Preparations of Asphalt.

In order to render a comparison possible, 4 per cent. solution of sulphurised asphalt, further 4 per cent. solution of the preparation prepared by precipitation of chloroform solution with ether and of the so-called Husnik's asphalt, were poured on small zinc plates and the films simultaneously exposed about fifteen minutes in direct sunlight under Vogel's photometer, then the image of the first-named preparation was developed with spirit of turpentine, that of Husnik's preparation with Hungarian oil of turpentine. It was seen that the sulphurised asphalt was at least $1\frac{1}{2}$ times as sensitive as the two other preparations.

Further Researches respecting the Sulphurised Asphalt. Probable Process in the Sulphurisation.

The Syrian asphalt consists, as has been already mentioned at the beginning of this treatise, of three different resins, which differ widely from one another. Beyond the differences which have been already described by Kayser in his above cited treatise, there are differences in the absorption spectra of the solutions of these resins; thus the Syrian raw asphalt shows three bands between the Fraunhofer lines *D* and *F*, which are peculiar to the *A* resin (soluble in alcohol); the *B* resin, soluble in ether, shows only two bands, whilst the most sensitive, richest in sulphur, *C* resin, shows no bands in the green.

I have now tried how much a Syrian asphalt, treated for about four hours by my process, contains of the two first or of the resins insoluble in ether. For this purpose I treated the sulphurised asphalt repeatedly with boiling ether, till only very little was dissolved, and evaporated the ether from the filtrate. There remained behind, after drying at 110 deg., 24 per cent. of the asphalt used as a tolerably soft, peculiar smelling, brownish-black mass. A sample of the same was dissolved in ether and examined spectroscopically. It showed two sharply defined absorption bands between *D* and *E*, and close to that a continuous absorption from *E* to far into the ultra violet, corresponding to that of the *B* resin occurring in the natural asphalt. By treatment of this resin with sulphur in the described way at 150-180 deg. C. it took up sulphur, and the chloroform solution of the melted product gives a precipitate when mixed with three times the quantity of ether, which points to a conversion into a product richer in sulphur and more sensitive.

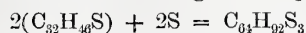
It seems quite possible, therefore, to convert the whole of the *A* and *B* resins into higher sulphurised products by sufficiently long continued action of sulphur upon raw Syrian asphalt under the above mentioned circumstances, and thus to make it more light-sensitive, upon which point I intend to experiment further.

The resin insoluble in ether is seen to be a black, very brittle mass without odour, which has a high melting point, and is easily

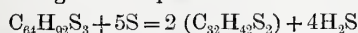
dissolved by chloroform, benzole, and oil of turpentine. Examined in the spectroscope, the same appearances are visible which Kayser found for his C resin, absence of absorption stripes between the Fraunhofer lines *D* and *F*, and commencement of complete absorption of light at *F*. The preparation of asphalt is very sensitive to light, and this sensitiveness can still further be increased by exposure to the sun for a short time, not too long or it becomes less soluble.

From what we have said, the *A* resin in the sulphurisation appears to be first attacked by the sulphur since the third characteristic absorption band as above stated is no longer present in the asphalt thus treated.

The chemical process of the action of the sulphur on the asphalt during the heating ought to be as follows: The *A* resin is converted into the *B* resin according to the equation.



which reaction appears to take place even by heating to 100 deg. C., since the asphalt by this time already becomes more sensitive to light. The *B* resin is converted by further treatment and higher temperature with evolution of sulphuretted hydrogen into the *C* resin according to the equation.



It appears, however, also that the *C* resin still takes up sulphur and becomes more sensitive to light, since the product, when the process is successfully carried out, is more sensitive than the *C* resin, prepared according to Kayser, as the comparative trials proved.

Experiments referring to the cause of the sensitiveness to light of the sulphurised asphalt.

The question of the true cause of the asphalt becoming insoluble in light is at present an open one. Chevreul and Niepce, on the basis of their experiments, declared this phenomenon to be an oxidation process, for which the presence of oxygen as an element is necessary*: also L. Schrank found that under a thick adherent film of collodion the action of light did not take place,† whilst R. Kayser assumes that no oxidation takes place, but only a molecular displacement of the constituents of the asphalt occurred.

I repeated these experiments, therefore, and found that my sulphurised asphalt as well also as raw Syrian asphalt exposed neither in a vacuum nor in an atmosphere of hydrogen, became insoluble, whilst in the same time of exposure, with access of atmospheric air, an image of asphalt insoluble in turpentine was formed. From this it is clear that the light-sensitiveness of asphalt arises from a photo-chemical oxidation process, in which, at all events, only extremely small quantities of oxygen come into consideration, since small films of air enclosed between the film of asphalt and glass matrix is sufficient to produce insolubility.

The influence of some additions to the asphalt varnish on the sensitiveness of the film.

As the asphalt dissolved in benzol becomes more sensitive by exposure to the sun with access of oxygen, as already mentioned I tried to attain the same effect by the introduction of ozonised air; with this, indeed, the sensitiveness was increased, but the ozone made a part of the asphalt insoluble in oil of turpentine, for which reason such pictures did not develop well.

Addition of iodine acts similarly; on the other hand, an addition of quinine, from which I expected a transfer of the oxidation, proved without any effect.

Guaiaicum resin, in itself a light-sensitive resin added to the sulphurised asphalt to the amount of 20 per cent., proved to be so far of use, since the development of the image was thereby rendered more easily clear.

Conclusions.

The following conclusions may be deduced from the experiences of my experiments for the preparation and employment of the sulphurised asphalt.

(1) To prepare the light-sensitive preparation 7-10 grms. of sulphur should be dissolved in a sufficient quantity of bisulphide of

carbon, and added to 100 grs. of powdered Syrian asphalt. The solution is then freed from the bisulphide of carbon as described, and best heated for about an hour in a mortar to 100 deg. C. with constant attrition with the pestle, then in a roomy air-bath slowly heated till sulphuretted hydrogen escapes and be kept at a temperature of about 180 deg. to 200 deg. C. for 5-6 hours. The formation of burnt products, which prove a decomposition of the asphalt, are caused by too high a temperature, and is to be avoided. The asphalt thus prepared, which now only smells faintly of sulphuretted hydrogen, should be kept in a well-closed bottle in the dark.

(2) For working in diffused daylight and especially if high sensitiveness is desired, it is advisable to free this asphalt from an existent B resin and from traces of burnt products, which may be effected by powdering and treating the powder with ether and with agitation in a wide-mouthed bottle fitted with a cork. After sufficient action, 2-3 hours, the ether is poured off and the insoluble portion dried by spreading it out in thin layers on several thicknesses of blotting paper.

(3) For use, four parts of sulphurised asphalt, treated according to notes 1 and 2, are to be dissolved in 100 c.cm. of benzole (not benzine), the solution filtered, and finally diluted till the film which is formed by pouring it on the zinc plate appears a golden-yellow colour. (An exposure of half to one hour of the solution of asphalt in an open flask to direct sunlight is advisable).

(4) To develop the asphalt pictures rectified oil of turpentine free from acid, the most suitable French or Austrian turpentine, should be used. As accelerator of development with strong over-exposure, or when using asphalt treated according to note 2, an addition of so-called Russian or Hungarian turpentine may be made, which oils when used alone would attack the image. As restrainer in developing, an addition of ligroin, benzine (petroleum benzine) or wood oil may be used.

(5) The development is best effected by merely rocking in a dish without the help of any pad of cotton wool and soon, when the image is developed clear, it should be well washed in a stream of water and allowed to drain and dry. (In order to avoid the unpleasant action of adhering drops of water, the plate may be washed with petroleum benzine before washing with water). It is advantageous before gumming the plate to expose it, as the image adheres better.—*Photo-Correspondenz.*



"Amateur Photographer" Agency for the Distribution of Apparatus, etc., to Needy Professionals.—It has been thought by some readers of this paper, and amateur workers, that it would be pleasant to be able to make some acknowledgment of the civility and attention received from so many members of the profession in placing dark-rooms, etc., at their disposal—in many cases without any charge. It is thought that the most graceful way of expressing this feeling will be by giving assistance to struggling professionals by providing them with more efficient apparatus, etc., and this is the object of the above agency. For the present, and until a regular committee can be formed, Mr. Harry Alcock, Meadowside, Avenue Villas, Cricklewood, London, N.W., has consented to act as Hon. Secretary and Treasurer. Subscriptions of apparatus or cash will be received by him and acknowledged in this paper. Those having spare apparatus which they would be willing to give for the above-named purpose should communicate with Mr. Alcock, who will bring the donor into communication with a suitable applicant, through the medium of the AMATEUR PHOTOGRAPHER. Applications for assistance, which will in no case be given in money, should be addressed to Mr. Alcock, and must come through a reader of this paper, and be accompanied by the address of a clergyman or other person of position, to whom reference may be made. Whenever practicable, a personal inquiry will be made into the *bona-fides* of each case, though it will not be deemed necessary to publish the full names of the persons to whom the gifts are made. Up to the present a sum of one guinea has been received from a reader of the AMATEUR PHOTOGRAPHER (Aberdare, Glamorgan), which has been forwarded to the Hon. Secretary and Treasurer, to whom subscriptions (of one shilling upwards) should be sent. If a sufficient sum is obtained, a purchase of apparatus will be made in accordance with the needs of the most suitable applicant. Many readers doubtless have old apparatus which would probably not fetch a tenth of the original cost if sold, but which would be a real boon to many needy professionals. Old portrait and other lenses, box cameras, and various sundries will all be useful, and we are satisfied that they can be properly and advantageously distributed.

* "Compt. Rendus," vol. xxxix., p. 391; vol. xli., p. 549.

† Eder, "Ausfuhr Handbuch," vol. i., 1891, p. 163.

Holiday Resorts and Photographic Haunts.

WANDERINGS IN CENTRAL EUROPE.

By J. T. ATKINSON.

We left England on Thursday, 17th June, for Munich, via the Rhine and Nuremberg, staying all night at Brussels. Brussels is so well known to your readers that any description would be useless, and I think the same remark will apply to Cologne. The next night we stayed at Bingen, opposite Rudesheim, and here one's photographic work commenced. My outfit consisted of a $\frac{1}{4}$ -plate long-focus camera, supplied some three years ago by Reynolds and Branson, of Leeds, and with whose capabilities I have had much experience. My lens was a Wray 5 by 4, Iris diaphragm, and I carried with me Thomas's plates and films and plenty of developing materials so as to test my work on the way.

Bingen affords a good centre for the photographer, and there is much to interest one there. In the distance, on the Rudesheim side, is the gigantic statue of "Germania" formed of the guns taken in the Franco-Prussian war. There are also numerous castles, etc., on the Rhine worthy of a plate. I found a photographer there, Hillsdorf, in the Kappella Gasse, who had German plates. Unfortunately, my imperfect knowledge of German has prevented me from obtaining that full information I should have liked, which our foreign confrères seemed so willing to impart. We left Bingen for Heidelberg, via Mayence, and in the way there seemed several places of interest. I need not dilate on the beauties of Heidelberg, whose castle is world-renowned. Sufficient to say I did not think six or eight plates too much; the castle itself should have at least four. There is the magnificent west front; then the courtyard, one of the gateways, and the view from the terrace are the least one should take. From the Platz, near the river, you can take the "Rettz" Hotel, a very curious old front; and there is the old bridge over the Neckar, with the towers at the end, worth a plate; also a view of the Castle from the Neustadt side—an afternoon light seemed the best. There are two photo dealers in the Hauptstrasse, E. Paffier and A. Veith, No. 15, who both supply German plates.

From Heidelberg we proceeded through a pretty country to Nuremberg, which is well worthy of a visit, especially as we are told the old walls are going to be pulled down. In almost every street there are quaint bits to be taken; the many deep-roofed houses full of windows, the fountains with their giant figures, the walls with their watch-towers, the bridges, the churches (especially the Dom and the Frauer-Kirche), the Burg or Castle, are all objects worthy of interest. Mr. Hans Bruch, 7, Unterstrasse, near the station, supplies German plates, and deals in cameras and photo materials. At Munich, although so large and handsome, but so modern in many respects, I did not use any plates, but no doubt there are many objects of interest to some of one's brethren, and before I left I half regretted I had not used a few plates in the old part of the city. I found some English plates, but I was told of foreign measure at Mr. Hans Emmerich, 22, Karlsplatz, who is a photographic dealer, and had several nice hand-cameras. There was also an optician in the Karlsplatz, who had also German plates. We stopped all night at Regensburg, otherwise Ratisbon, en route for the Salzkammergut district, and were very pleased with it. It is a quaint old city, very much reminding one of Nuremberg, with three or four interesting churches, especially the Cathedral, the north door of St. James's Church, otherwise the Scottish church; curious market places, the Rathhaus, etc., and other objects of interest. Here I found that H. Forelhauer, Rathhaus Platz, had German plates. From the opposite side of the Danube, near Stadt, you get a fine view of the Cathedral and the old bridge, and the town with the rapid river Danube as a foreground.

We arrived here (Passau) last night, and already in my walks abroad to-day have seen some pretty bits, especially on the banks of the river. Passau is situated on a long promontory where the Danube, Inn, and Ilz combine to form the Danube, which thus becomes a magnificent stream.

So far I have seen very few English or American photographers, but I was very much amused with an American who was very busy with his Kodak on the Calais steamer, and another, also an American boy of maybe seven or eight, who had a detective camera, and was using it at the Heidelberg Castle

on Sunday, making his sister, a pretty little dot of three, and her nurse serve as a foreground for his view of the west front, and who was fully alive to the different merits of hydroquinone and pyro and soda as developers, and who guessed that for the future he would use a powder developer, seeing that his "pappa" had unfortunately broken his bottle of developer. Verily that youth has a photographic future before him, and I trust he may take back to America many pleasant reminiscences of his first visit to Europe.

MARGARETTING.

By ARTHUR J. GOLDING.

THIS little village is situated on the Great Eastern Railway, within twenty-six miles of London by road or rail; the nearest station is Ingatestone, two miles distant. The village is still in its primitive state, not having yet been invaded by the modern builder. To lovers of truly pastoral scenery it is hardly to be excelled throughout the whole of Essex. The ground is broken by undulating hills, studded with homesteads, many of which are worth spending several plates over. On approaching Margaretting one will be greeted by the tinkling of sheep-bells and lowing herds, which at once warn the eager amateur to prepare his apparatus for the scene of action. I will now proceed to describe a walk which will certainly prove of interest to anyone who has only a limited time to spend in the place. At the base of the hill that forms the approach to the village we enter the meadows close by the village pump on the right; following the brooklet, one will come across several pretty subjects which will be well worth a plate; one in particular will be where a rustic bridge crosses the stream, and being surrounded by overhanging trees and quaint hedgerows, forms a perfect picture. Leaving the brook and continuing our way across the fields towards the church, we pass an old farmstead with its attendant stacks, pond, and outhouses, which forms a field for operations in farm studies. Turning our back on the farm, we come upon the railway, on the opposite side of which stands the church; this, with its pointed spire and adjacent row of tapering poplars and stately elms, and standing as it does in the midst of fields in which are generally to be found grazing cattle, forms an excellent subject. Following the footpath by the side of the railway line, we come to Brook Farm, which is worthy of attention. Climbing a slight hill, we recross the line and enter a shady lane, which, with wayside pools and glimpses of farm and field, afford ample scope for the artistic eye. Continuing our way and bearing to the left, we come upon the almshouses, "Margaretting Square;" we enter the quadrangle, nothing of much interest appearing from the outside; here we find much food for the camera in the shape of quaint old figures, most of whom are on the threshold of the "three score and ten," and which form interesting subjects for *genre* study. Having satisfied ourselves, we quit the square, opposite which is the village green. Here again is a scene worthy of a halt; fallen timber and implements of agriculture waiting for repair outside the wheelwright's shop form a broken foreground to the gabled cottages beyond. I have only touched upon this one walk, but there are many others equally good, which would well repay a longer stay in the district. The tourist whose stay is of longer duration will do well not to omit the surrounding villages of Fryerning, Blackmore, Widford, Stock, and others which are in the immediate vicinity.

Mr. W. Ralston's "The Ubiquitous and his Portable Dark-Tent" (Morison Bros., Glasgow) is one of a series of booklets of comic sketches, the one before us dealing with the adventures of a touring amateur and his changing bag of his own invention, and they are excruciatingly funny. If any of our readers want a good hearty laugh, we recommend them to take the advice on the cover, "You open the book; we'll do the rest."

East Southsea.—The members met for the last monthly meeting of the season at their rooms, on Tuesday last, when the prints taken at the last outing were passed round. The members expressed their pleasure at the arrangements made for the excursions, most of which have been well attended, most of them securing good pictures of the surrounding country. The following places have been visited during the summer: Emsworth, Porchester and Cansfield, Haslemere, Goodwood, Cowes, and Leigh Park, Havant. It was decided to start the winter programme with a practical demonstration in platinotype on the first Tuesday in October.

Notes from the Liverpool Centre.

(By our SPECIAL COMMISSIONER.)

AN OPENING NIGHT AT LIVERPOOL.

AFTER a storm comes a calm—photographically, perhaps, as otherwise. Not that we have had a storm, in a devastating sense, among our photographers up here, or that we have had a calm of ominous depression. But the fact is that since the great Liverpool exhibition ran its course a few months ago most of our leading workers have been taking more or less of a vacation. The summer months, too, with the accompanying round of domestic holidays, picnics, excursions, and the rest, have conduced to keep the proceedings of our cluster of societies rather quiet and of no particular moment.

But we are suddenly being awakened; this week we have commenced business earnestly and with energy. The forthcoming winter session, it is anticipated, will be fruitful of big things and of good things.

Never was the premier Liverpool Society in such a healthy condition, and never did it promise so well. The membership roll is longer and stronger than ever; the executive are enthusiastic, and they are hard workers; the rank and file, if I may so call the great bulk of unofficial members, are united and ready for several months' vigorous application to the charming and fascinating "art-science" and all allied therewith.

Under such conditions it was a wise stroke—and a significant one—that the Council of the Society secured a very much larger room than their own premises would allow for the opening night of the 1891-2 winter session. In fact, Thursday, this week, was a field night for the Liverpool Amateur Photographic Association. Members and their friends, with a very satisfactory number of ladies, very early announced their intention of giving the opening night a "numerous send-off." The spacious sale-room of the Lancashire and Yorkshire Railway Company was engaged for the function, and the arrangement turned out a great success. In this same room next month Mr. Charles W. Hastings, of the *AMATEUR PHOTOGRAPHER*, is to give his lecture on the 1891 Prize Lantern-slides, and already he is assured of a good audience. However, this is a digression.

Business being concluded on Thursday, Mr. George E. Thompson was down for a new illustrated lecture, "The Stone Age of the Passion Play at the Italian Lakes," Messrs. Archer and Sons' finest oxy-hydrogen lantern being requisitioned. The synopsis of this charming lecture is well worth reproducing. Near the extreme north-west confines of Italy, and almost under the snows of Monte Rosa, lies the romantic, diminutive town of Varallo. Its sacred mountain, visited annually by thousands of devout Italians, rears its head 500 feet above the old picturesque houses of the town. Among fine chestnut trees are littered some forty chapels containing numerous groups of terra-cotta figures, many of which are thought to equal in artistic merit the finest examples of sculpture in Italy. Of life-size, these figures represent biblical subjects, and for the greater part are illustrative of the life of Christ. Many of them have stood for over three centuries, and they are exceptionally worthy of notice both as works of art and as being, really, reproductions, in stone of characters in the famous Passion Play.

Again, Varallo is a good centre from which to visit the six great Italian lakes. After traversing the chapels on the sacred mount the lecturer leaves the town by the Colma Pass, afterwards giving glimpses of the lakes Orta, Maggiore, Lugano, Como, Iseo, and Garda, and then leads through the great plain of Lombardy, concluding with a vivid picture of Venice as seen by a flash of lightning during the midnight hours. The effect of this series of pictures cannot be adequately conveyed on paper—they must be seen.

PRIZE COMPETITION.

Glancing off from the work of the first night, I must say something of the 1891 Prize Competition, prizes in which are to be awarded at the Annual Meeting in November. A silver and a bronze medal will be given for the best and the second best series of six pictures, without restriction as to choice of subject (half-plate and under, and over half plate); a silver and a bronze medal for the best and the second best series of two enlargements; a bronze medal for the best series of six stereoscopic slides; a bronze medal for the best series of six pictures absolutely hand-camera work and a bronze medal for six prints, irrespective of

size or subject, open to any member who has not previously been awarded a medal by the society.

LANTERN SLIDES.

A competition in lantern slides will also be held in November; the competitors to each send in six slides on the evening of the meeting. If in the opinion of judges appointed by the Council, the slides merit the distinction, one silver and one bronze medal will be awarded, the winning slides to become the property of the Society.

CONDITIONS.

All the work sent in for these competitions must have been "taken" during the year preceding the adjudication, and the negatives, development, printing, toning, and clouds, if any, must be the actual work of the competitor.

Thus it will be seen that we have our work cut out in the L.A.P.A. at least. Other societies in the district are also preparing for the winter campaign, and several have already entered into important engagements. The weekly "Notes from the Liverpool Centre" will, therefore, be resumed from this week.

I may add as an additional item of interest that the two boxes of Liverpool International Photographic Exhibition Prize Lantern Slides of about 100 each are now ready and can be lent to members on application to the Honorary Secretary for a period not exceeding four days.



Exhibitions.

GLASGOW INTERNATIONAL PHOTOGRAPHIC EXHIBITION.

[FOURTH NOTICE.]

THE genre work in the Exhibition is very varied and exhibits a great variety of opinion as to what constitutes a genre picture. In some of the photographs exhibited, the figures are rather ridiculously posed and dressed in absurd clothing; only in a few is there natural pose or true artistic feeling shown. As a rule, the photographs that have been composed to illustrate some poetic work are artistically a failure.

In Class 24 the silver medal has been awarded to Mr. H. P. Robinson for "Primrose Time." The bronze medal has been gained by Robert Terras with "Preparing Dinner," a very careful little work, after Adam Distin's well-known work.

D. R. Clark exhibits 607, "Aye, Work Awa'," and this would possibly have secured the silver medal if Mr. Clark had studied more carefully the conditions—two pictures only were allowed, but he sent three. The picture, "Aye, Work Awa'" is natural in pose, and shows us a fisherman overlooking the baiting of his fishing lines.

We would call special attention to a little work near this picture, "A Duet" (611), which is artistic in feeling, but Mr. A. M. Morrison has, unfortunately, made the background somewhat fuzzy. If he had softened it down, and not made it so obtrusive, bringing the whole composition together so as to correctly represent the various planes of the picture, in their proper relation, he would have had a better result. There are several other good pictures in this class which exhibit artistic feeling. The "Evening of Life" (615) is rather light in the upper part, but the sentiment conveyed is good. A. Watson exhibits (626) a carefully executed photograph, but it is scarcely a genre picture. The detail and execution are good, but the result is commonplace—the man and child are too obviously conscious of having their likeness taken.

Mr. and Mrs. Anckorn exhibit 610, in which the figures are stagey.

Miss Weed Barnes exhibits 601, which we have seen reproduced before, and which is well executed, but the subject is extremely sentimental.

In the Champion Class there are a number of genre pictures, as a rule, those illustrating poems are failures.

The Countess Loredana da Porto's Italian studies show true artistic taste; in fact, the whole series from 678 to 689 are of especial merit and worthy of close examination. J. P. Gibson's pictures are charming transcripts of nature. Shapoor N. Bhedwar's illustrations of the "Feast of Roses" are much appreciated and have often been noticed.

J. E. Dumont has some excellent work. We would specially

name 697, "The Solo," and 698, "The Prescription." 793 is an old friend, "His Own Barber," and a well-posed study.

Lyddell Sawyer gets an extra gold medal in this class for a series of pictures from 792 to 801, mostly river and street scenes taken at Newcastle-on-Tyne; they are all well worthy of examination, and are certainly the best things of their class in the exhibition.

A gold medal has been awarded to Mr. W. Crooke, of Edinburgh, for his photographs of the Judges of the Court of Session. They are all most artistically treated, in imitation of old mezzotint engravings, and are excellent portraits, well lit and framed with much taste. They in every way merit the reward that they have gained.

Mr. Ralph W. Robinson receives a special silver medal for his sixty portraits of "Artists at Home" which are well known and have already received rewards in other exhibitions.

Van der Weyde's 789, "An Invitation to Supper," is a clever little combination group, evidently taken from four negatives. The pose of the figures and whole result is most successful.

In the Lady Amateurs' competition Mrs. B. G. Benetto gains the silver medal with some good figure studies, and Mrs. Hignett has some nice platinotypes. In fact, the whole of the lady amateurs' pictures are very creditably executed.

The non-competitive pictures do not as a rule call for much remark. The lantern transparencies are excellent. Those exhibited by G. W. Wilson and Co., to which a silver medal has been awarded in the professional class, thoroughly merit the prize. West and Sons' yachts are also very fine. Bamforth's series of the "Village Blacksmith" are far too stagey in treatment, and while no doubt they exhibit a great deal of care in posing, they are not by any means successful from an artistic point of view. In the lantern-slides by amateurs, Mr. J. E. Austin gains the silver medal with 224. The composition of his pictures is good, and the artistic effect is well rendered. Watson gains the bronze medal with yacht pictures. Andrew Pringle has some admirable views in Spain, for which he gets an extra bronze medal, and Snell Anderson exhibits sets which are soft in tone and with detail carefully rendered.

The entertainments given every night by various lecturers with line-light illustrations have been a great success. Amongst these Mr. Pringle's lecture on Burns, Mr. G. G. Napier's lecture on the homes and haunts of Tennyson, and Mr. Gambier Bolton's lecture on animals were specially fine. Mr. Pringle's lecture on bacteria drew together an audience not merely from the general public but one which included a considerable number of medical and scientific experts.

The catalogue, although not so well arranged as it should have been, is cheap at sixpence. We understand the secretary has a large number of applications for them from a distance, and he will be glad to send a copy to any one remitting 8d.



Dark-Room at Portmadoc.—We have just been advised by a subscriber that Mr. T. Jenkins, of 142, High Street, Portmadoc, has fitted up a dark-room for amateurs, and that he has a stock of plates, chemicals, etc.

Artistic Mounts—We are constantly receiving inquiries from our readers as to where mounts for their prints can be obtained, and there seems to be a wide-spread ignorance on that matter. We have now the pleasure of adding another name to the list, not of dealers, but manufacturers of mounts in England. Messrs. Hannam and Co., of Atlas Works, Gainsborough, have sent us a sample parcel of their mounts, which are everything that can be desired. There are some charming folding cards for mounting photographs to use as Christmas cards, of various designs, and suitable for either portraits or views. Then there are larger cards with positions for four or six prints on them, lines of various colours surrounding each print. Others are made with India tints, either as the ground on which the print is to be mounted, or as a border to it, some also being plate-marked. The "Naval" mount is a good substantial gilt bevelled edge mount, very appropriate for sea pieces, being provided, if desired, with a rope border in a delicate colour, or an India tint edge is given. Messrs. Hannam have a cheap Oxford line mount, and also, though by no means is it the least artistic of the series, Whatman surface cards, with plate-mark and gilt bevelled edge. The prices are very moderate, the Whatman mounts 9½ in. by 7½ in., with plate-mark 6 in. by 4½ in., for cabinets, being only 30s. per gross. The "Naval" mounts for half-plates are 1s. 6d. a dozen, and others in proportion. We should advise our readers to send for a catalogue before mounting their pictures.

Societies' Meetings.

King's Lynn.—The inaugural meeting of the winter session of this club was held on the 15th inst., the Rev. G. Wigglesworth in the chair. A beautiful set of slides, lent by Mr. W. T. Stead, was exhibited, representing scenes from the Passion Play at Ober-Ammergau, followed by prize slides lent by the Editor of the AMATEUR PHOTOGRAPHER, and slides manufactured by the Rev. G. Wigglesworth, Messrs. W. H. Cockle, H. Tilson, and J. H. Hall. On the platform were several cameras, and in front prints produced by Messrs. W. H. Cockle, W. E. Daw, jun., A. Taylor, H. Tilson, W. Winch, and A. Bridges. For artistic effect and finish these were highly commended.

Lewisham.—At the meeting on the 18th inst., Mr. Stodart gave an interesting and instructive paper on "The Uses of the Diaphragm," which was followed by a long discussion, much useful information being elicited. As it was impossible to thoroughly go into all the points raised in the short time that remained, several questions had to be held over till another meeting. On the 2nd October a demonstration will be given on "Lantern-slide Making."

North London.—At the general meeting on the 16th inst., Mr. Dunmore in the chair, the Chairman showed several beautiful whole-plate pictures, both of exteriors and interiors, taken with a lens made of two periscopic spectacle lenses placed close together, the concave sides to each other, and a small stop immediately in contact with the lenses in front. One of the pictures was the interior of a church with very tall columns, and there was not the slightest sign of curvature, whilst the picture was sharp right up to the edges. The Chairman said the fact was, this home-made lens would cover much more than a whole-plate. He had taken that size picture because his camera happened to be for whole-plate. He focussed with the open lens, and then inserted a ¼ of an inch stop, and although the aperture was so small, he found the exposure in an ordinary light with Ilford ordinary plates was about 5 sec., and therefore with extra-rapid plates and at the seaside he had no doubt that instantaneous exposures could be made. It was possible, by using shorter focus lenses and a 24 in. focus lens in front, to get a wider angle. There was some advantage in using pebble lenses—the light, perhaps, goes through quicker, as not so much light is absorbed. The pictures taken by Mr. Dunmore were all that could be desired, and were greatly admired by the members, who nearly all expressed their intention of trying this home-made and cheap lens for themselves. The Chairman stated that the lenses could be purchased either round or oval for about 3d. each, and if oval the outer edges could be easily cut down with a glazier's diamond, and then, if they were carefully centered, about which there was no trouble, and mounted, even in a brown paper mount, they would answer every purpose. Mr. Dunmore also showed a new camera back, or substitute for dark-slides, which he has patented, and which contains in itself focussing glass, focussing cloth, and very light carriers for plates. This back is so arranged that when the outer lid is raised for the purpose of focussing, the focussing cloth is raised with it, and forms a complete shade for the glass. The plate-carrier is then inserted, the lid closed down, and the same motion which raises the focussing screen also exposes the plate. There is no doubt that when this back is made public no camera will be considered perfect without it. It is a simple, handy piece of mechanism, doing away with the necessity for the cumbersome double dark-slides of the present day. Many questions were asked and courteously replied to by the Chairman, who then called on Mr. Howson to give a demonstration of "Printing and Toning on a New Printing-out Paper."

Preston.—The inaugural meeting took place on the 17th inst., in the rooms of the club, Hill Place. The society was formed in July, and their first act was to secure premises, available for entertainments as well as for the general purposes of a club. On the premises, a photographic dark-room has been fitted up with all the modern requirements, and this is placed at the service of the members. As to the membership, professionals and amateurs are equally eligible. At the present time there are about thirty members, but it is probable that in a short time the numbers will be at least doubled. The proceedings last evening took the form of an exhibition of magic-lantern slides and photographic prints. These had been lent by the Editor of the AMATEUR PHOTOGRAPHER, and the magic-lantern views were the series sent in by the various competitors in the 1890 contests. In this section there were four classes of subjects, viz., landscape and river scenery, figure studies and genre pictures, animals and instantaneous pictures, and architecture, external and internal. In the competitions, four prizes were awarded in each of these groups, viz., gold, silver, and bronze medals, and certificate. The series of each competitor were thrown on the screen, affording a rich and varied treat to the company. Besides British and Continental scenes there were views from the Antipodes, from California, and many other distant parts of the earth, so that the whole exhibition was more than interesting, being, in fact, highly instructive.

The architectural subjects were of a high order of merit. In all, over 200 slides were projected on the screen. Besides these, some 200 prints of various sizes, and in all styles of treatment, were placed on the tables for inspection. These prints had also been sent in for competition to the paper above mentioned, and they comprised some real gems of the photographic art. The exhibition was diversified by music and song, the vocalists being Mr. J. Campbell and Mr. Crow. Mr. J. Potter gave a recitation, entitled "Xmas Day in the Work-house." Solos on the pianoforte were excellently rendered by Mr. Herbert J. Meiling, who also accompanied the vocalists. Afterwards a short business meeting was held. Mr. O. Simpson was elected treasurer; Mr. W. J. T. Jackson and Mr. Worden, joint secretaries; and Messrs. O. Simpson, Lewty, B. Simpson, J. J. Jackson, and the secretaries, members of the committee. A number of new members were enrolled.

Richmond.—At the meeting on the 18th inst., Mr. Lowry in the chair, club business occupied most of the time. A proposal to admit ladies to membership on certain conditions was adopted, subject to the approval of the forthcoming annual meeting. A circulating library was started, to which members were invited to contribute books upon photography and the cognate sciences. Mr. Ardaseer consented to act as librarian, and sufficient books were promised by those present to form the nucleus of a library which should prove of great use to the club. The subject for discussion was "Defects in Gelatine Plates," but time did not allow of its being thoroughly dealt with.

Spenn Valley.—Dr. Farrow (President) presided over the September meeting of this Society, at which there was a good attendance of members. Formal business having been transacted, Mr. H. Jackson, of the Studio, made an interesting communication on the method of "Preparing Chrysostoms and Opalines," and the President read an important paper on "Dark-Room Procedure." After a few introductory remarks of a general character, in which he strongly advised cleanliness and care in all dark-room operations, the reader of the paper dwelt at some length on the subject of the dark-room light. He laid emphasis on the fact that it was impossible to be too careful in exposing plates to light before and during the early stages of development, and affirmed that there was no such thing as a perfectly safe light. He then showed an example of a plate which he had exposed to a "safe" ruby lamp in the usual position of the developing dish for ten minutes, and then developed with a normal developer. The result was that the part of the plate which had been exposed came up quite black, and showed that the exposure had been about a correct one! He then went on to say that after development was complete, and the plate had been washed, fixing or any other process might be done by full gas-light. Plates were shown which had been soaked in a normal developer for a quarter of an hour, washed five minutes under the tap, and then partly exposed to gaslight for twenty minutes, and which, on being fixed, showed no trace of having been affected by the white light. In conclusion, he said the two things he wished to lay stress upon were (1) that whilst filling slides and during the early stages of development the smallest possible light should be used, only turning up the full light in the lamp to see the final results of development; and (2) that after developing and washing, the full light of the gas would not injure the plate.

Wakefield and District.—On Saturday last the above Society met at Kirkgate Station and proceeded to Haigh. When the party arrived, several views were taken, including the stream and fall. The next halt was at a bridge over the Dearne, which gave a pretty view taken from its banks, showing the river through the bridge with the trees, etc. On passing up the hill towards High Hoyland a primitive well was discovered by the roadside and a village maiden drawing water. The maiden was posed and several successful negatives were secured. After spending a very pleasant afternoon the party arrived home a little after six o'clock.

Woolwich and District.—The ordinary meeting was held on Tuesday evening, 15th inst., on which occasion Mr. Cregan gave a practical demonstration on "Reducing and Intensifying Gelatine Negatives." It was arranged that another outdoor meeting should take place on Saturday 26th inst., when the members would walk along the river bank from Greenwich to Charlton. Meet at Maze-hill Station, S.E.R., at 3 p.m.

West Surrey.—The usual fortnightly meeting was held on the 16th inst. This was the first meeting of the winter session, and a good number of members were attracted. After the usual business had been got through, the chairman, Mr. J. L. Lyell, called upon Mr. A. Clarke for his demonstration on "Hydroquinone Development." This gentleman evidently understands the subject to a nicety. He showed to his audience that equally good results could be obtained from an old developer as from a new one and the more density one required could easily be procured by leaving the plate in the developer for a longer period. Mr. Clarke pointed out that this was a great advantage with over-exposed plates, as density could be obtained so easily, in comparison with a pyro developer. Besides these advantages, Mr. Clarke claimed for his developer cleanliness, and speed in development. It was mentioned at the meeting that one of their members and Vice-Presidents, Mr. Geo. Davison, had been elected President of the Photographic Convention of 1892, and the members felt proud that they numbered amongst them a gentleman of such prominence. On Wednesday the 30th inst. a lantern evening will be given, to which visitors are welcome.



QUARTERLY EXAMINATIONS IN PHOTOGRAPHY.

QUESTIONS.

(For Questions 4, 5, and 6—latest day for Answers, Oct. 5th—see last week's issue.)

- 7.—A single landscape lens will be forwarded to each competition in turn, and the lens must be sent on to the address given by the examiners within three days of receipt of the same. The lens is to be examined for focal length, ratio aperture of diaphragms, flare, covering power, and angle included, and the report sent to examiners.
- 8.—What is the action of light upon the following substances:—Potassium bichromate, ammonium vanadate and gelatine, ferric chloride and oxalic acid, mercuric chloride and oxalic acid; give any scientific photographic or commercial applications of the above.
- 9.—What is meant by the "disc of confusion"? State the limit, and explain briefly your idea of focus.

Latest Day for Answers, October 12th.

RULES.

1. Answers must be received on the date stated each week in the AMATEUR PHOTOGRAPHER.

2. All answers must be preceded by the question, and should be written on one side of the paper only, and each answer must be on a separate sheet or sheets.

3. A *nom de plume* may be used, and must follow every answer, and be affixed to every specimen of practical work.

4. Answers are not limited in length, but preference will be given to concise answers without unnecessary amplification.

5. Those desirous of competing must apply to have their names entered. As these examinations are intended to encourage the study of the theory and practice of photography, authorities upon photographic matters and contributors to the photographic journals will not be allowed to compete.

NOTE.—No information of any kind will be given to competitors, and nothing but the answers must be included for the examiners. All other communications must be addressed to the Editor.

Marks will be given for all answers, and, when possible, the three best answers will be published. The answers will not be published till the week following receipt of the same, and the examiners will criticise each answer sent in, and when no satisfactory answer is received, will supply one. Three prizes will be awarded at the end of each quarter. (Full syllabus on application.)

All communications to be addressed to—"EXAMINATION DEPARTMENT," AMATEUR PHOTOGRAPHER, 1, CREED LANE, LONDON, E.C.

To Correspondents.

All communications for these columns are to be addressed to **The Editor, "Amateur Photographer," 1, Creed Lane, Ludgate Hill, London, E.C.**

RULES.

1. Write clearly and distinctly on one side of the paper only.
2. Write each Query or Answer on a separate sheet of paper.
3. Write the name and address legibly on the back of each communication, and sign all Queries and Answers with name or *nom de plume*.
4. All matters for these columns MUST be received by TUESDAY MORNING'S POST.

5. The Editor does not undertake to answer questions by post.

6. In answering Queries, correspondents are requested to mention, in every instance, the number and full title of the query referred to.

QUERIES.

5049. **Enlarging.**—Can I enlarge with Lancaster's Multum-in-Parvo or Griffiths' fixed enlarger direct on paper without artificial light, or must a positive plate be taken, and then an enlarged negative from that? My window faces south at a southern sea-port.—KROC.

5050. **Developer.**—When mixing some hydroquinone developer the other day, I accidentally put in double the proper quantity of brom. pot. Will any reader please say if I can still use it with good results, and oblige?—REVILLO.

5051. **Exposure Meter, To Use.**—Could any brother amateur tell me how to use the Watkins' expo-

sure meter, and where to get the strip of paper used in the Watkins' exposure meter renewed?—K. M. W.

5052. **Retouching.**—I would feel obliged still more if "Lady Amateur" would say what material in the way of pencils, paints, and brushes for retouching and colours. An answer to this will extremely oblige, or if preferred to reply by letter, the Editor has my address, and I will communicate with her.—E. L. B.

5053. **Double Photography.**—Can any kind reader of the AMATEUR PHOTOGRAPHER inform me how to photograph an individual playing chess with himself (his "double")?—W. R. S.

5054. **Stereoscopic Club.**—Does any reader know of a club for the circulation or exchange of stereoscopic prints? I have a good number of my own, which I should like to exchange with other collectors, and thus increase my own collection as well as theirs.—ICONOCLAST II.

5055. **Celerotype.**—How can I prevent the emulsion from peeling off in the toning bath, and what is a good toning bath for this?—ICONOCLAST II.

5056. **Carlotype Cards.**—Has any reader tried the new carlotype opal cards advertised in Fallowfield's

last "Remembrancer," and with what results? Are they difficult to work?—**ICONOCLAST II.**

5057. Bromide Enlargements.—I have been enlarging by daylight from half-plate negatives to 12 by 10, on Morgan and Kidd's rapid rough paper, using a rapid symmetrical lens stopped down to $f/11.3$, with exposures varying from one to three minutes, using the developing formula recommended by Morgan and Kidd. The parts of enlargements which should have been white have mostly come out gray. The daylight was well blocked out of the room, and a safe lamp used. Can any reader suggest cause? Will over-development (say 15 minutes) account for it?—**H. J. STAMPS.**

5058. Toning Baths, Keeping.—Can the acetate, phosphate, or bicarbonate toning baths be used again after once used for toning silver prints? If not, can anyone tell me if there is a toning bath that can be mixed and used several times?—**SILVER PRINT.**

5059. Washing Prints.—Would some fellow reader tell me how to get on as to washing my prints, as I have not got a tap, only a pump, at our house? I generally wash for about five minutes (by pumping on them) before toning, then tone, wash for two or three minutes, fix, and let prints stand and soak all night in clear water. Would someone tell me if they are washed enough?—**BEONNER.**

5060. Enlarging.—Would any one kindly give me particulars for making a decent enlarging apparatus for quarter-plate negatives, or of a book for same.—**GOBANG.**

5061. Lantern Slides.—What is the simplest and best way of making lantern slides from half and whole plate negatives?—**ALPHA.**

5062. Intensification.—Can any reader tell me if the method of intensification by bromide of cadmium is satisfactory? I have seen the following formula for strengthening negatives given in photographic papers: "The negatives are plunged for a short time according to their desired intensity into a solution of ammonia in equal parts and are then put in a 10 per cent. alcoholic solution of bromide of cadmium," but should be glad of fuller instructions from any one who has had experience with it. I want to know of some good process of intensification that does not use bi-chloride of mercury. Does the silver process work well?—**CARBONATE.**

5063. Combined Toning Bath.—I should like to know of some simple combined toning and fixing bath that would do with the Ilford Alpha paper as well as for print-out gelatine-chloride papers. Would the Alpha bath suit Jacoby's chloride of silver emulsion?—**CARBONATE.**

5064. Copies of Glass Positive.—I have a photograph on glass from which I want a few copies. If the varnish is removed from the back, will it render an ordinary negative, and if so, would methylated spirit be the agent for the removal of the varnish? I may say the photograph was taken about twenty years since and has, no doubt, faded somewhat.—**TRANSPOSER.**

5065. Acetate of Soda.—What is the actual work of acetate of soda in the toning bath, and what would be the result of more being used for toning a certain sensitised albumenised paper than given in the formula supplied with the paper?—**TRANSPOSER.**

5066. Hardcastle's Platinum Paper.—Can as good black tones be got with this paper as with the platinum type paper, hot-bath process? I have tried two other sorts of printing-out platinum papers, but have only got greyish-black tones with them, although the negatives I used were suitable for the process.—**SENSITISED.**

5067. Developer.—There is a single fluid transparent for dry plates. Will any kind reader give formula how to make it? It is called Mayfield's, and has been in use several years and answers well for amateur photographers.—**SINGLE FLUID.**

5068. Brown Tone on Bromide Paper.—I am desirous to obtain a permanent brown tone on bromide paper. Will someone kindly explain the process?—**SCRAPPY NEGROHEADS.**

5069. Drying Prints.—Can anyone tell me the best way to dry photographs, keeping them from curling up? Will white blotting-paper fade them?—**MAN-FIELD.**

5070. Toning Bath.—My bath is composed as follows:—

Bicarbonate soda	10 gr.
Chloride gold	2 "
Acetate soda	30 "
Water	8 oz.

I can generally get purple tones, but when I afterwards wash the prints and place them in the fixing bath (13 oz. hypo and 10 drops of liquor ammonia '880 to the pint of water) they generally turn to a dirty brown. Can anyone tell me the cause of this? After they come out of the fixing bath I wash them in frequent changes of water, and let them soak for twelve hours or more.—**I. C. R.**

5071. Toning Bath, to Mix.—Should the gold be mixed with the solution when the bath is made, or may it be added when the prints are in the toning bath?—**I. C. R.**

5072. Quantity.—I mix my 15 gr. tube of chloride of gold with 15 teaspoonfuls of water. Is this right, and is a teaspoonful equal to 1 dm.?—**I. C. R.**

5073. To Make Toning Bath Alkaline.—If the bath is acid, should I use bicarbonate of soda to make it alkaline?—**I. C. R.**

5074. Alum Bath.—Is the alum bath indispensable for negatives? I use Fitch's Xylonite films with hydro-cum-eiko developer, and they never fail.—**BARTON TOWERS.**

5075. Omnigraph Changing Box.—Could any of your readers oblige me with an accurate description of how to use the above? The optician from whom I recently purchased my Omnigraph appears to be unable to do so clearly. My difficulties begin when, after having filled the box with six plates, I try to remove one, in order to put it into position for exposure. When (as I was directed to do) I incline the camera, to allow one plate to fall forward, either it refuses to do so, or two come out. Any information will greatly assist.—**A. NOVICE.**

5076. Facile Hand-Camera.—In answer 5012 to this heading, A. P. G. D. states, "Mine is the R.R. lens, which gives perfect definition to the edges of the plate, and great sharpness all over the picture." Is the lens he alluded to that supplied with his Facile by the dealer? My experiences differ entirely from his. I worked for a portion of last season with the R.R. lens supplied with a Facile direct from the dealer. I was not satisfied with the result, the definition falling away towards margin of plate, using $f/11$. The dictum of an expert to whom I sent an untrimmed print, and also a negative plate, was, "The lens does not cover the plate." The camera was returned to the dealer, who affixed thereto an entirely new lens, which, however, in my hands, gave no better results. This season I fitted a lens purchased from a manufacturer, and now obtain a full quarter-plate picture. The camera itself I look upon as *facile princeps* of its kind.—**LLKWOX.**

5077. Watkins' Exposure Meter.—Will someone who has mastered the Watkins' meter oblige me with particulars of its variations, using Ilford ordinary plates? I have used meter for twelve months and find in dull weather I get under exposure, using a number which in sunshine gives over-exposure.—**LONDONER.**

5078. Covering Power of Lens.—What is the largest size plate the 7 by 5 Optimus R.R. will cover, using back combination only (about 17 in. focus).—**LONDONER.**

5079. Plates.—Is there any plate which will work with Watkins' meter without variation?—**LONDONER.**

5080. Making Optical Lantern.—Will any readers kindly tell me of any articles or book in which directions for making an optical lantern occur?—**E. C. L.**

5081. Ferro-Prussiate Process.—

Citrate of iron and ammonia	2 oz.
Water	8 "
Red prussiate of potash	2 oz.
Water	8 "

In coating paper with above, I can obtain yellow prints only. I take equal parts of above and add 5 drops ammonium bromide to each ounce of mixed solution; when printed I wash in several changes of water, but into first water I put a few drops of hydrochloric acid, which seems to have no effect, for I get same print without the acid as with it. I wish to obtain blue prints. Will some brother assist me?—**GOOD OLD WALSALL.**

5082. Negative Washing.—On looking through my negatives the other day I found several of them which I wanted to print from covered with a white powdery substance, which I supposed was hypo and due to insufficient washing, and on trying to wash it off under the tap I was surprised to see the gelatine all stripped off the plate. It was the same when soaking in water, the film all blistered up and left the plate. What is the cause of this? How can I wash them? By answering above questions you will greatly assist.—**GOOD OLD WALSALL.**

QUERIES UNANSWERED.

Sept. 4.—No. 4994.

" 11.—Nos. 5021, 5022.

" 18.—Nos. 5035, 5037, 5045.

ANSWERS.

4992. Beginner wants Help.—In reply to "C. L. B.'s" query, I will here give you as much information as the space I am allowed by the Editor will admit. Developing is the most important part on bringing out a negative; most of its work (if not all) is done by luck only, it being of course all attached to the exposure of the plate, which is also a very puzzling matter to decide upon. This matter requires a great lot of "practice before you are perfect," although there are a great number of exposure tables which do all help (very little) to make the work easier. There are only one or two which are really good, but I should advise you never to use an exposure book; you will find you will get on much better by your own experience. "Every" plate which is exposed, no matter where, is either under or over-exposed. It is a good remedy for pinholes to blow slightly on your plates both before leaving your dark-room after filling the dark slides and before putting the plate in the developer. The best way to tell when a plate is developed sufficiently is to keep the plate in the developer until there are some black marks (some of the picture) on the back of the negative. When this is done the plate should be put in a bath of cold water for five minutes, then put in the following fixing bath, viz.: Add 5 oz.

of hypo to 20 oz. (one pint) of water, keep the plate in the fixing for ten minutes or until, when lifting up the negative when in the fixing, you can see no white on the back of the negative. When this is done, put the negative in water for twenty-four hours, then take it out, let it dry, and print a proof and see what sort of a picture you have got. The fixing will be good for use till it is discoloured, and it is best to buy a pound of hypo of soda at a time (3d.). It is best to keep your dishes separate, viz., one for developing, one for fixing, one for water, one for toning. I have given you the fullest instructions about toning in my answer to your query No. 4990, which, I think, will do a little towards getting up the tree of photography. There is one thing you ought to know: never print in the sun, and the toning which I have given you the formula for, will keep it for use for five months only. The following is a very good developer in one bottle only, viz., Lockyer's hydroquinone developer, sold in 1s. 3d. and 2s. bottles. See Lockyer's advertisement in this week's issue, page vii. Full instructions are on the bottle, and I am glad to tell you I have never had a single negative spoilt through development since I have used this developer, which is for about one year on and off, having used over twenty bottles. Thomas's plates are very good, but I use Barret ordinary for all work: it is a matter of choice. Hoping you will be a little better for this epistle, which is rather roughly worded, but I think you will be able to understand.—**CREDITE.**

5001. Printing Processes.—Kallotype No. 2 is the best process I know. The original required silver in the developer, but No. 2 has it on the paper. Print from 3 min. in sun to 10 or 15 min. in good light, when a faint picture is visible. Then develop in a cheap developer as per instructions, leaving it in for about half an hour; transfer to the fixing solution (weak ammonia), wash, and dry. The whole process is easy, quick, cheap, clean, and free from hypo; colours obtained, black, purple-black, or sepia, according to variations in developer. Be careful not to print too deep, and not to use the least trace more bichromate of potash than given in instructions, or half tones will be dissolved before they develop.—**ARGAURUM.**

5012. Facile Hand-Camera.—In answer to "L.R." re Facile, I beg to state that in my opinion this camera is almost as perfect as anything can be for hand work. With $f/11$ and a good brand of rapid plates and a strong light it is almost impossible to fail. Let me enumerate its good properties. (1) Lens; this is very good, and covers the plate well and gives good definition. (2) Finder; large and good, and just over the lens, it is also identical, which is what most finders are not. (3) Changing plates; this is simply perfection, a gentle turn of the screw, and the plate never sticks, and the index number shows where you are. (4) The Miall sheaths are admirable and easily filled. (5) The weight is trifling, the workmanship excellent, and the appearance workmanlike. (6) The shutter is a marvel of ingenuity, as the rapidity can be so easily varied. (7) The screen behind the lens keeps out dust. (8) The price is most moderate. Having tried many hand-cameras, I have no hesitation in saying that if I were to be allowed only one camera I should choose the Facile, which, in my opinion, should be called the 'Facile Princeps.'—**ARTIST.**

5013. Enlarging Camera.—If "Economy" will do as I have done, he will get very fair enlargements with Instantograph only. Choose a window with an uninterrupted view of the sky and cover it all up with brown paper, except a square 4 by 3 ft. Against this opening place the camera (supported by a shelf) with focussing screen towards window, place the negative to be enlarged in the dark slide and withdraw both shutters, and put the slide just as it is into the camera and close the ground-glass over the lot. All that is now needed is an easel to support the bromide paper before the lens.—**A. J. SMITH.**

5013. Enlarging Camera.—If the querist will send me particulars as to equivalent focus of lens and the length of extension of camera, I will be pleased to send a rough sketch. The Editor has my address.—**THE SMITH.**

5014. Shutter and Tripod.—The shutter is rather a difficult thing to recommend, as size is not mentioned. In my estimation, Newman's improved beats everything for all general work.—**SUNLIGHT AND SHADOW.**

5019. Lantern Slides.—Procure a good square box without a lid, cut a hole in the bottom the size of your negative, which can be fixed in position by little turn buckles, or strips of wood across the corners. Probably you will not require to shut out the light between camera and box, but if necessary you can use a couple of laths of wood and the focussing cloth thrown over them for this purpose. Set up your camera with a short-focus lens in it, and point the latter at the negative (the box, of course, turned on its side), mark out a square 3 in. on ground glass of camera, focus and move box about till correct size is obtained, then expose (using as large a stop as possible) on a lantern-size plate held in your dark slide by means of a carrier, develop, and there you are. Conduct the above operations near a window with a good sky view to it. Exposure will be about two or three minutes with $f/11$.—**PEN.**

5020. Reducing Silver Prints.—The following is from Wall's "Dictionary": "Albumenised paper prints may be reduced by dipping into cupric chloride, or by using the chloride of lime or platinum toning baths."—**A. J. SMITH.**

5024. Dark-Room Ventilation.—As "Colonel's" dark-room is a good size, the best way to make ventilation for it would be as follows: About 9 in. from the top of the dark-room make four or five holes, each 3 or 4 in. in diameter, and fix in these holes (which ought to be about 3 or 4 in. apart) four or five tin tubes in the shape of Z. Paint these dead black inside. An ironmonger would do the job.—W. H. ELLIS.

5025. Stains.—I am afraid "Grays" has a chemical in the coat, which is rather difficult to deal with. I think it is impossible to restore the colour.—W. H. ELLIS.

5028. Fog.—A couple of small india-rubber bands on the lens tube, one on each side of and close up to the stop, will end your trouble.—THE SMITH.

5028. Fog.—A piece of velvet attached by a strong india-rubber band will answer your purpose. Cut a slit just large enough to admit stops.—PEN.

5029. Vignette.—Take a piece of cardboard sufficiently large to completely cover your printing frame, cut an opening in this size and shape required for your vignette, serrate the edges, and paste a piece of tissue paper over it. If placed half an inch from the negative, and the printing done in diffused light, you will obtain a beautifully soft vignette. I have found this method answer better than anything else. I do not like the glass vignettes a bit.—S. C. B.

5029. Vignette.—There are some patent vignette papers, six in packet, 1s. 4½d. half-plate, sold at the Army and Navy Stores (auxiliary department), which answer admirably. If "Lens" cannot procure them and will write to me (address with Editor), I will procure him a packet.—MELCHIOR.

5030. Mounts.—Try Fallowfield's, Charing Cross Road, London, W. He has a capital selection.—ICONOCLAST II.

5031. Reducer.—Soak the negative for a quarter of an hour in water, and then apply the following solution:

Ferricyanide of potassium . . . 3 gr.
Hyposulphite of soda . . . 20 "
Water, to . . . 2 oz.

If the whole negative is too dense, flow it with the solution. If parts only are "overdone," apply to those parts with a brush. Apply the solution and at once plunge the negative into a dish of clean water, repeating the operation until a sufficient amount of reduction has been obtained.—BLISTER.

5031. Reducer.—If "S. L. W." means an over-developed negative, I have found the following successful: Soak the negative in water for five minutes, then immerse in the ordinary hypo bath, to which a few drops of the solution of ferricyanide of potash (40 gr. to 1 oz. of water) have been added. Reduction will proceed in proportion to the amount of ferricyanide present. When sufficiently reduced, the plate should be thoroughly washed to stop further reduction. (Wall's "Dictionary of Photography," a book no amateur should be without).—HIGHBROOK.

5032. Griffith's Hand-Camera.—I have seen some excellent results obtained with this, and for the money I do not think it can be beaten. Of course, you must not expect work equal to a ten guinea apparatus from it, and remember it only takes 3½ by 3½ negatives, although using quarter-plates.—ICONOCLAST II.

5032. Griffith's Camera is good value and does very well, considering its price. If you do not wish to go to much expense, I should advise you to purchase the Arcanum, a new camera, introduced by Messrs. Talbot and Eamer, of Blackburn, at the low figure of £1 2s. 6d. The camera holds twelve quarter-plates and is fitted with finder, instantaneous and time shutter (self-setting), and rapid lens, and does excellent work.—A. B.

5035. Exposure, Interior.—The exposure required for the purpose you mention ought to be, as near as can be judged, between 10 and 15 mins. If between the months of May and August; if either before or after these months, it ought to be about 5 mins. more.—W. H. ELLIS.

5035. Exposure.—About a quarter of an hour.—PEN.

5035. View Album.—A. J. G. will be able to get all he requires at any large photographic material dealer's such as Watson's, High Holborn, or Fallowfield's, Charing Cross Road, etc.—W. H. ELLIS.

5039. Chloride of Gold.—Procure a brown half filled with sand, and a glass bottle which will stand heat. Mix 1 drm. of nitric acid in a glass measure and put in the bottle along with half a sovereign, or its equivalent weight of pure gold. Place the bottle in the basin containing sand on the hob, so that the gases may escape by the chimney. In about two hours the gold will have disappeared leaving a solution of per-chloride of gold in excess of acid. Pour off the clear liquid into a 15-oz. bottle and add gradually small pieces of common bluing or carbonate of soda until the solution is only slightly acid; make up to 15 oz. with distilled water. The solution will then contain 8 gr. chloride of gold to each ounce, and being acid, will keep almost any length of time. A half-ounce weighs about 61 gr. of which 56 are pure gold, which is equivalent to 38 gr. of chloride. Many prefer an Australian coin, as it is free from copper. Gold leaf is heated in exactly the same manner as the coin.—BLISTER.

5039. Lens for Hand-Camera.—Unmounted lenses specially suitable for fixed focus, hand-cameras may be procured from Talbot and Eamer, Blackburn. I do not remember the exact price.—OXIDE.

5039. Lens for Hand-Camera.—I presume you

mean, not "mounted" in a camera front, which is never done by the makers. You surely do not mean the lens glass only not mounted in a brass tube? Write to Messrs. Taylor and Hobson, Leicester.—PEN.

5040. Camunilux.—The lens of this camera will not cover a half-plate sharp to the edges, and the same fault is found when used as a magic-lantern.—G. F. W.

5040. Camunilux.—I think you would be disappointed with the camera.—A. B.

5041. View-Finder, to make.—Get an ordinary round spectacle lens of about 2 in. focus. Next make a little wooden box, in the front of which you can fasten the spectacle lens, and of the same length as the focus of the lens. At the back of this box fasten a piece of looking-glass at 45 degs. with the bottom. Then cut a hole in the top over the looking-glass and fix over this a piece of fine ground-glass. If the image thrown on this ground-glass is not quite sharply focussed, alter the lens till it is. Try this beside the camera, and mark the amount that will include the same angle of view as the camera. Then cut a mask out of black paper with a hole in of this size and fasten it over the ground-glass. Fasten this finder a few inches below the top of your hand-camera. The amount of field obtained with a bi-concave finder depends on the distance the eye is from the finder. To get a smaller field put the finder further from the eye.—BLISTER.

5042. Broken Negative.—Print in a deep box without a lid.—PEN.

5042. Broken Negative.—Place the printing frame at the bottom of a box 6 or 9 in. deep, suspend this from a string or a roasting jack so as to keep it continually turning while printing; crack will then show very little unless film is badly broken.—ICONOCLAST II.

5042. Broken Negative.—You will find full instructions for this in the "Amateur Photographer's Annual."—CARBONATE.

5043. Colouring Enlargements.—If you want to colour a photograph which is enlarged from either quarter or half plate, the best size would be 12 by 10. If a view, enlarge it as large as your dishes will allow. It is, I think, a matter of choice.—W. H. ELLIS.

5043. Colouring Enlargements.—The best method of preparing bromide enlargements for oil colouring is to mount, and when thoroughly dry, apply a wash of cold water in the same way as if proceeding to colour on an ordinary piece of paper before applying the tint. Do not use too much water. The part to be washed with colour should be evenly wetted with a small sponge and clean water. The best effects can be obtained by broad hatching work; still, the main body of local colour must be washed on before other tints are hatched over them.—BLISTER.

5044. Enlarging.—Yes to all your questions. The makers are doing for me, what you mention, now.—PEN.

5045. Toning Solution.—In answer to "Instantographs'" query, the bath I recommended is a good bath, provided the various chemicals are measured correctly. If you choose to make a bath of half the quantities given, you must expect bad results, especially in this case, as a tube if gold cannot very well be measured exactly. You should have started fresh, and been as particular-over measuring the chemicals as you were about the light getting to the toning bath. I should advise you to start fresh, and not in halves. You ought to have used warm water when mixing. If this may have caused the precipitate, there is, I am afraid, no remedy.—W. H. ELLIS.

5046. Hand-Camera.—In reply to this query, if "Bretlaw" goes to Houghton and Son's, 89, High Holborn, he will get all he can wish for in the way of a hand-camera.—W. H. ELLIS.

5046. Hand-Camera.—I do not think there is anything to beat the Talmer; it is so convenient and compact, being only one-half the weight and size of most quarter-plate hand-cameras. The price, too, is reasonable. If money be no object, get one of the latest Talmers fitted with two finders and Euryscope lens; with this, one can take instantaneous pictures in winter. I have used one of these cameras for some time and have travelled some distance with it on my bicycle.—LENS.

5047. Fixing Bath.—The bath described in J. B. Smith's query is too strong for bromide prints. They generally take between 10 to 15 minutes to fix in a fixing bath made up as follows, viz., 1 pint of warm water to 5 oz. of hyposulphite of soda, used quite cold.—W. H. ELLIS.

5047. Fixing Bath.—The bath you speak of would be an improvement on the ordinary fixing bath for bromide paper, as it would help to clear the print as well as fix it. If you use an ordinary clearing bath before fixing I should think it would be hardly necessary to take the trouble to make up anything but the ordinary solution. A much more simple bath is made by the addition of 1 oz. bisulphite of soda to each pint, of hypo solution 1 to 5.—CARBONATE.

5048. Adhesive Mounts.—You can make these yourself by coating mounts after this manner: Mix in a small glass mortar, or measure, 150 gr. powdered tragacanth with 6 drms. methylated spirit, and having put 9 oz. water into a pint bottle, pour the mixture quickly into the water, shake for a few minutes, and allow to stand for twelve hours, shaking it occasionally, and you will have enough to coat 100 to 200 mounts. Give a good thick coating with a brush, dry, and coat a second time. Mounts will curl, but can be easily straightened when dry.—PEN.

EDITORIAL.

SPECIAL NOTICE.—We are very pleased to find that replies in this column are so much appreciated, but we should be very grateful if those requiring advice would send their letters to us BEFORE TUESDAY MORNING'S post if possible. The time occupied in replying in this column is very considerable, and owing to the often late receipt of letters, many matters have to be left over each week. This we much regret.—Ed: AM: PHOT:

FRED. EASTWOOD.—The defect is what is technically called a flare spot, and may be caused by the edges of the diaphragms being worn bright, or by an incorrect position of the stop. Return lens to makers, who will immediately rectify for you.

INSTANTOGRAPH.—The ground-glass of your camera would act as a good diffuser of the light, no matter what it is; merely press it up close to the dark slide and go ahead.

E. C. L.—You certainly do not need a lantern for enlarging by artificial light. We shall shortly publish a work which will help you.

G. S.—Old negative glasses are quite useless; no firm will undertake recoating them.

GAY.—(1) Spoilt entirely by the end of the bridge being cut off. (2) Under-printed, not so pleasing a result as No. 1. (3) Good, but not quite up to competition standard as regards artistic qualities. (4) Good. (5) Good. (6) Too rusty in tone; if a good black, would do. (7) Good. The last four up to competition standard.

G. A. BROWNE.—The formula you want is—

1.	Hydroquinone	80 gr.
	Metabisulphite of potash	120 "
	Bromide of potash	5 "
	Water	20 oz.

2.	Caustic potash	200 gr.
	Water	20 oz.

For a normal exposure use equal parts. The publication you name is not dead but appears rather spasmodically.

NICKLE.—Nothing will remove the stains, which seem to us to be caused by the prints sticking together. Do you use salt and water after toning? If not, we should advise you to try it. You can enter our competitions. The rapid bromide paper for enlarging; about 15 to 20 sec. ought to be sufficient with a good light. (1) Flat and over-toned. (2) Over-toned. (3) A great deal too white and patchy. (4) Fair.

ENQUIRY.—We do not know the formula for the French varnish, but the surface which stands damp best is a sandarac negative varnish, on collodion, on an alumed plate.

SPOTTER.—We do not think there is any work solely devoted to the art of colouring in oils. There is a work by A. H. Bool, "The Art of Photo Painting," but we do not know whether it treats of oil colours. The author's address is 93, Harwood Road, Fulham, S.W.

E. DILLON.—We will see what we can do with your negatives.

M. B.—In the face of your letter we should say that the blank space was undoubtedly the camera bellows, and is a serious drawback. It has occurred to us since that the fault in your lens may also be a ghost; anyhow, return it to the makers with a print showing the defect, and they should at once rectify it.

REVEREND.—For an evening effect your print is good. We prefer unmounted prints for our hospital albums, and shall be pleased to have any you can spare, with titles. Scholzig, Binfield Road, Clapham, also has a matt paper.

J. G. BRADEN.—The explanation of the fact that you note is simple; when printing under suitable glass the albuminate of silver is most affected, hence the peculiar tone. We will, however, refer to this presently. If not quite clear, we will write you privately.

S. P. J.—Swinden and Earp's hand-camera has very many advantages over the other one you name.

J. B. STEPHEN.—We know of no other address of Dyson than that attached to his advertisements. We use his washable lantern screen, and think very highly of it.

ICONOCLAST II.—We hope your ambitions will be realised and that you may very soon be awarded one of the AMATEUR PHOTOGRAPHER medals. We have no rule of selection in regard to the photographs reproduced in the *Photographic Reporter*.

W. E. MARBION.—Have answered your letter by post.

HENRY MACDONALD.—We draw attention in a paragraph. Very many thanks to you for the information.

HARRY ALCOCK.—You will see that we publish a paragraph as desired.

REV. F. W. STOW.—Many thanks for your letter, which is published in another column.

J. D. P.—Messrs. Talmer and Eamer, Blackburn, will, no doubt, supply you with moulding.

OPTIMUS.—Gold should never be added to any bath whilst the prints are in it, but your stains look as though the prints had come in contact with metal in the washing. We should recommend either B or A for ordinary work, and Z or Y for instantaneous. We are unable to find the formula just now, but will look it up.

MAC.—Your prints are on the road. Our remarks were not too flattering, but true: In working bromides

give a fairly long exposure and use a developer very weak in iron, then you will not block shadows.

H. WOOLNUGH.—Yellow matt varnish is ordinary matt varnish dyed with turmeric, saffron, aurantia, or any yellow dye; if the varnish is applied to back of plate, the edge line does not show.

CAB. PHOTO.—(1) You had better get one of Lancaster's enlarging cameras, which run well under the price you name (see back page advertisements.) (2) Oxalic acid can be had from any chemist's, about 2d. per ounce. The developer for the cold bath process is:

Oxalate of potash 50 gr.
Chloro-platinite of potash 9 "
Distilled water 1 oz.

FRED HILL.—Both your slides are good, and the one of Levesden Woods very fine and quite up to competition standard. Most of our competitors use gelatine plates, though one or two still adhere to the wet-plate process, which in many people's idea gives the finest slides. In our opinion, gelatine plates properly worked yield equally good results.

GERALD F. WETHERMAN.—We have only one print of Clifton Bridge, which is completely spoilt by the tint of the paper, otherwise it is very fair.

CAMERA.—You cannot do better than use Abney's formula, which you mention; it is not difficult, and safer than the ammonia process. (1) Seconds crown would be quite good enough, and you could select thirds for the 5 by 4. (2) For hand-camera use single dark slides, such as Chudwick's, at 30s. per dozen. (3) Write to Platt and Witte, Birckbeck Road, Ridley Road, Dalston, E., who can supply anything and everything you want.

NEVILLE.—(1) Prints do not require washing more than three hours in running water. (2) Notices of our competitions appear every week in our columns. (3) Burnishing makes the prints more glossy, but is not essential. The lens supplied with the '91 Instantograph is called "Special Instantaneous Lens," and is a single landscape or meniscus lens with Iris diaphragm. We have no prints from you.

ELMORE.—(1) It was hardly necessary to include the end of the cottage on the left; you had the opportunity of making a good picture. There is a white spot on the right which looks as though it had never been silvered, the albumen is entirely gone. The print is good and full of sunshine, but we object to pink skies. (2) The water on right wants breaking up by a boat, and the paper shows hairs, dirt, and a whole line of bubbles caused in floating, otherwise it is very fair. (3) This would make a nice little half-plate picture; the sides are wanting in interest. (4) Good, but a better print still would have been obtained by printing in the shade. When you want to roll prints always roll them albumen outside. Prints returned.

Sale and Exchange.

RULES.

REPORTING.—Apparatus may be sent to the EDITOR, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C., who will report upon the apparatus to the buyer for a minimum fee of 2s. 6d., or a commission of 2½ per cent., upon the sale price of the apparatus.

CARRIAGE must be paid on all apparatus sent for report, and they will be returned carriage forward.

ADVERTISEMENTS can be inserted under a number, the name and address being registered, and letters forwarded for a fee of 3d. to cover postage.

ADDRESS.—All advertisements (which can be received up to Wednesday morning, 9.0 a.m.) and other communications having reference to the "Sale and Exchange" column, must be addressed "Sale and Exchange, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C."

PAYMENTS should be made in Postal Orders or Postage Stamps.

Bicycle.—Safety, original Rover (by Stanley Sutton), balls all over; cost £22; price, with new spring

luggage carrier, £8 10s.—D., 16, Tabley Road, Tufnell Park, N.

Diamond safety, hollow rims, laced spokes, lamp, and bell; cost £12 10s.; sell £7 10s., or exchange half-plate apparatus and cash.—Humphries, 2, Dudley Villas, Old Trafford, Manchester.

Cameras, etc.—Quarter-plate International, two double backs, sliding tripod, also changing bag; cost £8 10s.; sacrifice 45s.—Kormoczy, 103, Grafton Street, Mile End.

Lancaster's 1890 quarter-plate Instantograph, complete with two Tylar's metal dark-slides and canvas case; £2.—M. Tregilgas, 39, Lavender Hill, S.W.

Cameras, Lenses, etc.—5 by 4 wet-plate camera, single slide, portrait lens, with stops, complete; 25s.—G. A. Knight, Seaford, Sussex.

Robinson's quarter-plate camera, screw focussing, and three double dark-slides, folding ash tripod, and Euryscope f/6 lens; 45s.—G. A. Knight, Seaford, Sussex.

Hand-Cameras, etc.—An Optimus hand-camera, especially fitted up with Taylor's 5 in. lens, Thornton-Pickard shutter, six dark-slides; cost £9; price £5.—Nicholson Cartner, Carlisle.

Kodak, small size, cost 5 guineas, sell for 45s., or exchange for Eastman's quarter roller, dark-slide; also Kodak, No. 3 Junior, cost £8 12s. 6d., sell for £6 10s.—Pitcher, Photographer, Gloucester.

Rouch's famous Eureka hand-camera, nearly new, splendid instrument; cost £6 6d.; price £4.—P. B., Box 43, St. Helens, Lancashire.

Hand-camera, leather covered, Eastman's roll-holder, Laverne's detective lens, rectilinear fixed focus, over 12 ft., Kershaw shutter, finder; price 75s.—Shaw, 5 Great Ancoats Street, Manchester.

Fallowfield's Pacile £5 5s., in perfect order; £4 4s., or offer.—Hankinson, chemist, Grange-over-Sands.

London Stereoscopic Company's hand-camera, the Compactum, leather covered, holds 12 quarter-plates, in perfect condition, cost £11, sell 8 guineas; Watkins' exposure meter, 10s. 6d.—Barton, Morriston, Elgin.

No. 5 folding Kodak, new, seals unbroken, 7 by 5 pictures, two spoils films; advertiser prevented going abroad by illness; cost £13; price £10.—Butler, Hill-side, Elm Grove Road, Cotham, Bristol.

Lamps.—Magnesium lamps, 6d. each, postage 3d.; magnesium, 2d. per yard.—Humphries, 29, Grafton Road, Holloway.

Lantern.—Powerful dissolving binocular lime-light lantern, in perfect order, mahogany body, 4 in. condensers, brass front, lenses, dissolver, and all accessories, packed strong portable case; £12 wanted; cost £20.—Tunstall, Photographic Club, 3, Lord Street, Liverpool.

Lantern Slides.—Set of 50 Wilson's lantern slides, "Modern Babylon," with reading, finest views of London ever published, only shown once; cost 50s.; will take 40s.—Jackson, Amateur Photographic Depot, 71, Oxford Street, Manchester.

Lenses, etc.—Lancaster's Instantograph lens, half-plate, with instantaneous shutter, new last March; offers 2.—Adkins, 28, Orrell Lane, Walton, Liverpool.

Ross's 8 by 4 W.A. actinic doublet, 30s.; Marion's camera, 3½ by 2½, double back, lens, 15s.—Field, 81, Ossulston Street, N.W.

London Stereoscopic Company's extra-rapid portrait, quarter, £4; Ross' portable symmetrical, 7 by 5, both new, £3.—R., 74, Oakley Square, London, N.W.

Splendid R.R., Iris, as new, 50s.; Wray's 5 by 4 R.R., Iris, 48s. 6d.; Optimus portable symmetrical, 5 by 4, 25s.; Suter landscape, 7 by 5, leather case, 25s. 6d.; splendid 5 by 4 R.R., 22s.; all perfect, and nearly new.—Rev. Christie, Rectory, Newtown Stewart, Ireland.

7 by 5 rapid rectilinear lens, with Waterhouse stops, as new; 17s. 6d.—53, Slad Road, Stroud, Glos.

Sets.—Lancaster's quarter-plate set, nearly new; cost £5; take half.—Davies, 22, Market Square, Pontypridd.

Great bargain! 1891 half-plate Instantograph camera, slide, tripod, and rapid rectilinear lens, as new; only 67s. 6d.—John Slade, Slad Road, Stroud, Glos.

Underwood's Instanto quarter-plate camera, slide, lens, stand, two cases, £2; Rouch's Eureka back for 12 plates, fitted to camera, £1 15s.; Wray's 5 by 4 R.R. lens, fitted, £1 15s.; Newman's shutter, fitted, £1; box to form hand-camera, 2s. 6d.; Collins' half-plate camera, two slides (poor), three Tylar's metal slides and screen, lens, triangle, £3; Rouch's Pringle plate box for 24 plates; 7s. 6d.; zinc tank, dipping bath, Eastman film carriers, etc., 7s. 6d.; Middlemiss whole-plate camera, three slides, £6; two canvas cases, £1 5s.; Optimus R.R. 9 by 7 lens, £2 10s.; Wray's whole-plate W.A.L. lens, £2; Wray's whole-plate W.A.R. lens, £3; focussing glass, view-meter, 5s.; Cadett shutter, £1; Thornton half-plate roll-holder, £2; 4—5 rolls paper, £1; trays, etc., etc.—No. 201, AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.

Cabinet studio camera, leather bellows, and all movements, double dark-slide, cabinet portrait lens, and pneumatic shutter, massive rack-work studio stand, nearly new, cost £12, price £6; two backgrounds, 6s.—J. Mendum, 17, Westgate Buildings, Bath.

Rouch's whole-plate double extension portable leather bellows camera, all movements, one double dark-slide, book pattern, double hinged shutters, as good as new; cost £6 3s.; exchange good 10 by 8 R.R., or cash £4.—G. A. Knight, Seaford, Sussex.

Bargains, giving up. Smith's XL half-plate camera, three slides, 47s. 6d.; 7 by 5 R.R. lens, 20s.; Lancaster's tripod and canvas case, 13s. 6d.; canvas case for camera, 5s.; also a splendid microscope, cost £13 a few weeks ago, price £8; Lancaster's Omnigraph, 17s. 6d.; exchange gun or pets.—M. Newhouse, 90 Victoria Terrace, Lancaster.

Will sell or exchange photographic lenses, cameras, stands, etc., for American organ or piano.—Holloway, 215, St. James Road, Bermondsey.

Sundries.—What offers? AMATEUR PHOTOGRAPHER, June, 1888, to date; "Photographic Societies' Reporter," first 13 monthly parts.—Wells, 24, Clissold Street, Birmingham.

Camunilux lens and ash stand, with turned brass ends at bottom, 14s.; 12 coloured lantern slides, comic, 3s.—Easterby, 24, Dent Street, West Hartlepool.

Two 12 by 10 oak printing frames, bargain, 7s. 6d., cost 21s.; Wood's whole-plate washer, 7s. 6d.; exchange half-plate slides, Tylar's preferred.—Tooth, Stephen Street, Rugby.

Tripod, etc.—Lancaster's half-plate International tripod, two double wooden slides; 48s.—G., 58, Woodsome Road, Highgate Road.

WANTED.

Cameras, etc.—Camera, in exchange for violin.—T. Key, George Street, Grautham.

10 by 8 camera, one slide, no lens, good order, deposit, Lancaster's preferred, or similar, at once.—Hughes, Rectory Place, Woolwich.

Lancaster's 15 by 12 Multum-in-Parvo enlarging camera, cheap, or good exchange.—Copeman, Hendridge.

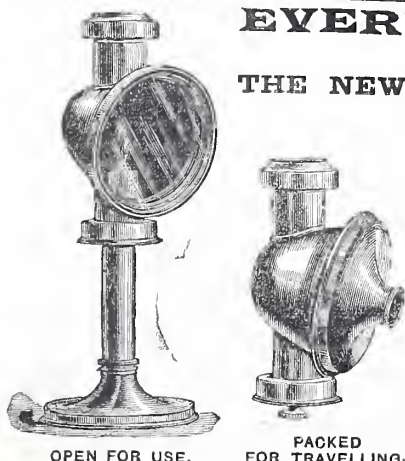
Hand-Cameras, etc.—No. 3 Kodak, with film, or good quarter camera, lens, stand, fitted Eastman's roll-holder in case, in exchange for Lancaster's 1886 quarter Instanto, lens, stand, slide, 7 by 5 Optimus R.R., with Iris, fitted pneumatic time and instantaneous drop shutter, self portrait shutter, and changing bag.—E. Phillips, Bridge Street, Leatherhead.

Lantern Slides.—A few lantern slides of Stratford-on-Avon for cash, or would exchange slides of Whitley.—No. 202, AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.

Lenses, etc.—8½ by 6½ Ross' universal symmetrical lens, 2 in. diameter, 10½ equivalent focus, Iris diaphragm, must be in first-class condition.—Address, J. M., 262, Hawthorne Road, Bootle, Liverpool.

Shutter.—Time and instantaneous shutter, 2½ in. hood.—Crosley, Rodley, Leeds.

Sundries.—Old camera bellows, 8½ by 6½ in. or 10 by 8 in.—C. E. Humphries, 29, Grafton Road, Holloway, London, N.



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Office: 1, Creed Lane, Ludgate Hill, London, E.C.

No. 365. Vol. XIV.]

FRIDAY, OCTOBER 2, 1891.

[PRICE TWOPENCE.]

OUR VIEWS.

"To hold as 'twere the mirror up to nature,"—Shakespeare.

OUR VIEWS.—Pall Mall Awards—Photography Abroad—Quarterly Examination—Hand-Cameras—Societies Meetings—Photographing Music Scores—Glasgow Exhibition—The Vienna Exhibition—The Midland Camera Club—Exhibition at the Camera Club—Cadiz Photographic Exhibition—Mr. Van der Weyde's Glasgow Medal.

LEADERS.—The Photographic Societies' Exhibition—Beginners' Difficulties.

ILLUSTRATIONS.—A Boy's Pets, by the late Lord Robert Grosvenor.

LETTERS.—A False Actinometric Theory (Alfred Watkins)—A Queer State of Things (Fair Play)—The Volute Shutter (E. J. Wa I)—Disquieting Rumours (Affrighted)—German Customs and Dry Plates (William Mann).

ARTICLES.—Photographic Procedure (Wall)—The Lantern, and How to Use It (Norton)—How I Started a successful Society (Provincial).

REVIEW.—Die Photographischen Objectie (Eder).

AMATEUR PHOTOGRAPHER "Monday Evenings."

EXHIBITIONS.—Exhibition of the Photographic Society of Great Britain.

APPARATUS.—Messrs. Skinners' Photographic Apparatus.

SOCIETIES' MEETINGS.—Birmingham—Bournemouth—Cornish—Faversham—Leeds—North Middlesex—Richmond—Sheffield—Sheffield Optical—Stockton.

EDITORIAL DEPARTMENT.—All Literary Contributions, Queries and Answers, Photographs for Competition or Criticism, Books or apparatus for Notice or Review are to be addressed to the EDITOR, AMATEUR PHOTOGRAPHER, 1, CREED LANE, LUDGATE HILL, LONDON, E.C. (All Communications should reach the Editor on Tuesday.)

TRADE ADVERTISEMENTS are received up to Tuesday morning.

TERMS OF SUBSCRIPTION—

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POSTAL UNION.....	" 6s. 6d.....	" 13s. 6d.
OUT OF POSTAL UNION ..	" 7s. 9d.....	" 15s. 3d.

PUBLISHING DEPARTMENT.—All letters containing Subscriptions, Orders, Remittances, SALE and EXCHANGE Advertisements, or other business matters for the AMATEUR PHOTOGRAPHER are to be addressed to the Publishers, HAZELL, WATSON, and VINEY, LD., 1, CREED LANE, LUDGATE HILL, LONDON, E.C. (SALE and EXCHANGE Advertisements, at the charge of Three Words for One Penny, can be received as late as WEDNESDAY MORNING.)

"Amateur Photographer" Monthly Lantern Slide Competition, (Sixth)—"PORTRAITURE and FIGURE STUDIES." Last day, OCTOBER 22ND.—Two Slides to be sent in. Entry Forms, etc., on receipt of stamped envelope. Address: Editor, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C.

"Amateur Photographer" 1891 Stereoscopic Slide Competition, (Fifth Year).—Prizes: Gold, Silver, and Bronze Medals, and Certificates in each class. Competitors can only enter one class, and every competitor must contribute six slides.

CLASS I.—Landscape, Sea Pieces, and River Scenery, with or without figures.

CLASS II.—Architecture, Interior or Exterior.

CLASS III.—The Fine Arts, which may include Sculpture, Art Metal Work, China, Bric-a-Brac.

NOTE.—Past prize-winners will be awarded "Niepce," or progressive medals, should they win a medal of the same value as that which they have been awarded in past Stereoscopic Slide Competitions.

DATE.—All slides must be received on or before October 30th, 1891.

RULES, CONDITIONS, and ENTRY FORMS will be forwarded on receipt of stamped addressed envelope. The application should be endorsed, "STEREOSCOPIC SLIDE COMPETITION," Editor, AMATEUR PHOTOGRAPHER 1, Creed Lane, London, E.C.

"Amateur Photographer" Monthly Competition No. 29—"INLAND SCENERY." Last day, NOVEMBER 2ND.—Prizes: Silver and Bronze Medals, with Ribbon and Clasps. One print only to be sent in. Entry forms, etc., on receipt of stamped envelope. Address: Editor, AMATEUR PHOTOGRAPHER, 1, Creed Lane, E.C.

Members of the Editing Staff are At Home" on Monday, afternoons from Two till Five o'clock, and they will gladly give advice upon all photographic matters.

THE judges at the Pall Mall Exhibition had some difficulty in making their awards, but notwithstanding the large number of exhibitors, only eight medals were awarded. As our criticism of the work shown appears in another part of the paper, we will simply give here the names of those exhibitors to whom medals were awarded:—

F. P. Cembrano, jun. No. 49, "Sunset, Winter."

Mrs. E Main .. , 255, "A Frosty Morning, St. Moritz."

R. W. Robinson .. , 340, "A Primrose by the River Brun."

W. M. Warneuke .. , 453, "Miss L. Johnson as Desdemona."

Autotype Company .. , 515, "Outward Bound" (autogravure).

F. L. Colls .. , 617, Six photo-etchings.

G. West and Sons .. , 643, Lantern-slides.

Paget Prize Plate Co. .. , 700, Glass-cutting machine.

NOTWITHSTANDING the generally reassuring nature of the accounts of the visits of photographers to countries on the Continent, it is well to be very careful not to wound the susceptibilities or rouse the suspicions of the authorities, or the result may be anything but pleasant. Mr. Carleton H. Graves, a gentleman well known in the American world of photography, paid a visit to Germany last month, and his experiences were not of the most exhilarating character. Whilst at Mayence he desired to secure a view of the town, and in his desire for a picture he apparently forgot the regulations generally in force abroad with respect to fortifications, for he ascended the embankment of one of them and planted his camera for an exposure. He got no further, however, for he immediately found himself under arrest, and, after being taken to a number of offices, he was finally committed to prison. He succeeded in communicating with the American Consul, who exerted himself in his behalf, with the result that the rigour of the confinement was somewhat relaxed. He was not allowed to have any food till the next morning. In the meantime every portion of his baggage had been searched. Finding no evidence against him, he was taken from one official to another, and was finally released, after having been under arrest for thirty-three hours. Before being released he was obliged to pay a fine of fifteen marks, and

to sign a paper, the purport of which he did not quite understand, but which he believed was a document indemnifying the officials against any claim for damages for false imprisonment. He left Mayence the same evening, and arrived at Metz late at night. On the following day at Metz he was arrested merely for photographing in the street, but was able to prove his identity, and was released in a few hours. We thoroughly sympathise with Mr. Graves, but we think that possibly a little forethought would have prevented the mishap. Many of our readers have photographed in Germany and France, and have had no trouble, but probably they gave fortifications a wide berth.

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WE call attention to the fact that the date for sending in prints to the AMATEUR PHOTOGRAPHER Junior Competition, for youths under eighteen, has been extended from the 8th inst. to the 28th inst. Entry forms will be forwarded on application.

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WE notice that Mr. W. Lang, jun., F.C.S., the energetic President of the Glasgow Photographic Association, gave a lecture at the Exhibition on the 24th ult. The subject was an extremely interesting one, "Bath, the City of Hot-springs, and its Environs." Mr. Lang showed on the screen a large number of excellent views, illustrative of the old Roman baths and the prominent places of interest throughout the city. There were shown also the portraits of some eminent benefactors of the city—Beau Nash, Ralph Allen, Fox Talbot, and the Herschels. On the 26th Mr. Ralph Elder entertained the visitors with an illustrated lecture entitled "A Holiday with the Camera in Brittany."

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THE September number of the *Photographische Rundschau*, the organ of the club of amateur photographers of Vienna, contains an editorial critique upon the pictures exhibited at the exhibition, which our readers will remember called forth some comment in our early issues of this year. We regret that pressure on our space forbids us from giving in full the remarks on the English exhibits, though we briefly run through them. H.R.H. the Princess of Wales' instantaneous studies are said to be as good as Kodak studies generally. Mr. and Mrs. Anckorn's pictures are beautifully executed and of great naturalness. F. E. Austin receives special praise for "The Love Letter," which appeared in the April number of the *Photographic Quarterly*. Shapoor N. Bhedwar's "Feast of Roses" is also praised. Gambier Bolton's famous lion is described as showing more pride than wildness. J. M. Brown, of Shanklin, is found fault with for his foreground and background, and the pictures have little interest. Burchett is described as one of the best portrait artists for his "La Belle Bretonne." F. P. Cembrano's effects are praised, and also W. J. Byrne's lighting, posing, and finish. Lyonel Clark's well-known "Dedham Lock and Bridge" are described as very artistic. Francis Clarke's "Nothing half so sweet as love's young dream" comes in for notice, and special fault found with the glaring white apron of the girl. George Davison is described as the most extreme exponent of the "impressionist" school, and his pictures, it is stated, by no means receive general commendation, his famous "Onion Field" being branded as the worst, and decidedly inartistic. Falkner and Co. receive high praise for their untouched children's portraits. J. Gale is highly commended for all his, and the critic states that no one has seen "Sleepy Hollow" without wishing to possess it. Horsley Hinton's "Ebb of Day" is said to possess a peculiar charm. Lyd. Sawyer is specially commended. Ernest Spencer is roughly handled. Henry Stevens' "Flower Studies" receive unqualified praise. Sutcliffe's pictures are said to possess great

naturalness, and the critic regrets that A. Tagliaferro did not send more pictures.

WE now come to what is to the critic the exhibit of the whole collection of pictures, the work of Harry Tolley. He is the leader of the whole exhibitors, a heaven-born artist, the "Photographische Idyll" is indebted to him for its birth, his pictures are "photographirte Poesie" and had he taken up painting or sculpture he would have made as great a name in them as in photography. After such praise as this, everybody else is treated in scant style. W. M. Warneuke, Gay Wilkinson, Winter, Worsley-Benison, C. E. Wyrall, Wellington, West and Son, Paul Lange, Edgar Lee, Martin J. Harding all send good work; but for Tolley alone is heaven and earth invoked in praise.

Much regret has been expressed in photographic circles that no photographic journal had the enterprise to send a special commission to criticise and report upon the photographs exhibited at Vienna. The foregoing will therefore be of very special interest to the English exhibitors, as showing the value placed upon the photographs sent for competition.

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A SUBSCRIBER at Smyrna, Mr. Edward Clarke, writes:—"I need not say that in case any of your friends visit these parts I shall be most happy to be of any service to them."

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WE understand that a meeting of the Provisional Committee of the Midland Camera Club has been held at Birmingham. Dr. Hall-Edwards occupied the chair. Club rooms have been arranged for, as well as the necessary furniture and fittings. A prospectus will now be drawn up and circulated in the district. The objects of the Club are:—"The advancement of photography in all its branches, and the promotion of social intercourse amongst all photographers—(1) by the holding of periodical meetings for lectures, papers, discussions, and practical demonstrations, and by friendly competitions upon photographic subjects; (2) by the provision of convenient club-rooms, with dark-room, etc., for use of members; (3) by the promotion of intercourse between this and other societies." The Club is to be open to amateur and professional photographers, ladies or gentlemen. The Provisional Secretary is a professional photographer, Mr. W. D. Welford, 47, Hagley Road, Birmingham. Applications for membership and for further details can be made to him.

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OUR readers will be pleased to hear that on the 6th inst. and forward, there is to be on view at the Camera Club Charing Cross Road, a selection of Mr. Ralph W. Robinson's pictures, including the very celebrated series of portraits of Academicians. Admission to see the exhibition can be secured, between 10 a.m. and 4 p.m., by means of cards which may be obtained of the members of the Club, or the Hon. Sec., Mr. George Davison.

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IT is interesting to know that Mr. John A. Parkinson, an Englishman, and a very early competitor in the AMATEUR PHOTOGRAPHER competitions, has been awarded the silver medal for photographs exhibited by him at the Cadiz (Spain) Photographic Exhibition. Mr. Parkinson is Superintendent for the Eastern Telegraph Company, and a most capable worker in photography.

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MR. VAN DER WEYDE calls our attention to an error in our notice of the medals awarded him at Glasgow. He was awarded a *special gold* medal in Class I., and a silver medal (highest award) for "Enlargements." We, of course are only too pleased to give publicity to the honours that he has received, and regret the mistake.

WE are pleased at the evident appreciation which so many of our readers have for our new plan of conducting the Quarterly Examination, but the applications for the exposed plates have been so far in excess of our estimate that we have been compelled to withhold the forwarding of same till this week. This will not, however, affect the awarding of the marks, as an extension of time will be allowed by the examiners, for answers 2 and 5, to those competitors who did not receive their plates at the proper time. The examiners request us to state that not more than one week's answers must be sent in at once.

Doubtless many novices have been deterred from entering the examination for fear of the "questions being too stiff," but this is the very reason why they should enter. We are quite certain that there is not any better method of learning a subject than by having to hunt out answers for a series of questions, especially when no authorities are given. There is one point to which we wish to draw the attention of each competitor, and that is the annoyance caused by those competitors who merely enter their names, answer one or two questions, and then send no further answers. This is annoying in more ways than one, as it entails unnecessary work on the examiners, and is also disappointing and by no means flattering to the competitors, or those who have instituted the examinations. We trust, therefore, to see no one fall out of the ranks.

A CORRESPONDENT, writing on hand-cameras, says, "We went to Maidenhead last week . . . and —'s hand-camera stuck, and we had to smash two plates out with an umbrella before it would work, and as soon as it was all right, —'s stuck. An ordinary camera is good enough for me." Obviously we withhold the names of the offending

cameras, but under such circumstances we can only agree with our correspondent and state "an ordinary camera is good enough."

THE Secretary of a provincial society writes to us asking if the editorial staff, or our contributor "A Provincial," who is describing the formation of a successful society, will kindly advise him what to do when having announced a meeting of the society, with "a general discussion" on the

agenda, he turns up punctually at the appointed time and finds the society represented "by the energetic and hard-working Honorary Secretary." This experience is beyond us. We have attended a society meeting when the Secretary and ourselves were the sole representatives, and the business consisted of wondering "what the other fellows" were doing, and why they did not turn up; but for one man, and that the Secretary, to represent a society in a town of between thirty and forty thousand inhabitants is too much for us. We must reluctantly leave the matter in the hands of our contributor.

SIR JOHN STAINER (whose services in the cause of music entitle him to a respectful hearing, adds a strong appeal in the *Times* to Sir Geo. Groves's proposition as to the photographing of the scores of Beethoven's Symphonies. "The autograph of a great musical work," says Sir John Stainer,

"brings a student into the very presence of the composer, face to face;" and he goes on to say, "In certain well-known passages in his Symphonies we are not quite sure to this day whether we are playing the right notes!" Surely, now that the scheme has been proposed by Sir George Grove, seconded by Dr. A. C. Mackenzie, and supported by Sir John Stainer, it should be at once started.

ILLUSTRATION FOR THE WEEK.



A BOY'S PETS.

(Negative by the late Lord Robert Grosvenor.)

THE PHOTOGRAPHIC SOCIETY'S EXHIBITION.

(FIRST NOTICE.)

THE annual exhibition of the Photographic Society of Great Britain undoubtedly takes the lead in comparison with the now numerous exhibitions which are held throughout the year at various provincial centres. It is, to photographic art at least, what the Royal Academy is to painting, and it is at this exhibition that we are accustomed to look for the most recent scientific discoveries, and the first production of improvements in apparatus and materials. We are unable to say offhand how many such exhibitions have already been held under the auspices of the Society, for the practice of numbering them consecutively on the title pages of the catalogue has not been followed, but we believe that, with scarcely an interval, an exhibition has been held annually almost from the foundation, certainly for the last forty years or more.

Youthful, comparatively speaking, as the science or art of photography may be said to be, the *parent society*, as it is sometimes called, can show a long and honourable record; the greatest names in the photographic world have been associated with it, and some indeed, of the original founders, or members, are still to be found inscribed on the roll. Whether, however, it has altogether kept pace with the times, whether it continues to fulfil its functions of holding the leading place in the art, of being the acknowledged guide and mentor to which all look up with confidence, or whether, on the contrary, from one cause or another it has fallen into apathetic ways, and has ceased to show that vigour and initiative force which we are reasonably entitled to expect from it, is a question which, we regret to say, has frequently, within recent times, been answered with considerable unanimity in the negative. Other societies—amongst which the Camera Club, for instance, is a notable example—have sprung up and developed themselves. They have usurped, so to speak, many, if not all, of the functions of the Academic Society, they number amongst their prominent and working members nearly all the most noted names of the older association, the papers read at their meetings, and the journals published by them, are no whit inferior—in fact, it may probably be said that they are superior—and they leave little more to the Society than the organization of an annual exhibition which is distinguished only by being national or universal, instead of being local or semi-private.

It is not our intention at the present moment to enter into the question of the signs of decay and want of power which, with regard to the Photographic Society of Great Britain, are, at the present time, being loudly spoken of, into the causes which may have led to such a condition, or of the reforms in the constitution and working of this body which appear to be called for. If such evils exist it may be presumed that being brought to a head they will, in time, as we sincerely hope they may, work their own remedy. We are for the moment more particularly concerned with the exhibition which has just been opened, an exhibition which, whether from the causes to which we have already alluded, or from others beyond the power of the Society to affect, is pretty generally conceded to be very much below an average to which we have been accustomed, and very inferior in merit and attraction.

In reviewing an exhibition such as the present one, or in calling to mind the standard and composition of recent annual exhibitions of the Photographic Society, one cannot help being struck with the want of representative quality which year by year has been uniformly apparent. When we remember that the Photographic Society of Great Britain is the representative of a marvellous and beautiful science which includes art certainly, yet as a part only of

the whole, it is strange to find that at the annual review, as it may be called, of the progress of the year's work, one side, one portion only, of the whole great science appears to monopolise almost all the attention, almost all the love and energies of the promoters, and to demand from the hands of the judges selected principally for their attainments in this branch only, the allotment of nearly all (in most years *all*) the rewards and distinctions for skill and discovery. Now this would be conceivable if the principal aim and object of photography were the making of pictures, and if, like the Royal Academy, the Photographic Society were an Academy of FineArts. But it is not so. It is not yet, indeed, definitely settled whether photography has any claims to be considered art at all. Many of its leading members themselves deny to it this distinction. We have, in fact, only to turn to a discussion on the subject held early in the summer at the Camera Club, and we shall find one prominent figure in the photographic world asserting that he had no pretensions ever to have produced a work of art; another exulting in the publication of the denial, by the author of "Water-Rats," that photography is art; another (a well-known contributor to these columns) glorying in the noble uses to which the science of photography can be applied, and disclaiming its pretensions to place itself by the side of the imaginative arts; others also supporting a similar feeling which is prevalent not only within but also without the walls of the Club. Further, and more especially to the point, the Photographic Society of Great Britain, in one of its communications about a year ago (we have not, unfortunately, the text at hand to refer to), officially laid down that it would graciously *patronise* the making of pictures by photography. And yet, in the face of this, year by year, the leading productions which it has to offer to the world, the object to which all the efforts of the organisers of the exhibition are directed, the cream of its show, are simply, and almost solely, these same attempts at picture-making! Is it not, we ask, reasonable to inquire whether encouragement should not equally be given to the productions of the widely diversified uses to which photography lends itself in such a wonderful and beautiful manner? Is it not a just cause for wonder and complaint that we should see upon the walls of these exhibitions nothing, or almost nothing, illustrative of achievements and improvements in microscopic science, in astronomical observations, in medicine and surgery, topographical surveys, systematic records of ancient monuments and the marvellous imitative reproductions of works of art and applications to book illustrations? Are not these things at least as worthy of equal attention as the production of views and lantern slides? We cannot help thinking that the efforts of the leading society should not be limited in one direction almost entirely. And yet it is impossible to avoid feeling that such is unfortunately the case. The bestowal of the awards, the very method of appointment of the judges who are to award them, seem to point to this conclusion. Looking either from the artistic or the scientific side of the question, what could be worse than the system of nominating the judges by popular vote of the members of the society? For it must be borne in mind that membership implies no learned or artistic qualifications and gives no corresponding status. It is obvious that at present the vote turns upon the supposed capability to judge pictures with artistic discrimination. So far as we can see, therefore, there is nothing to prevent the judges one year being all artists (or assumed so to be) with no capability for understanding science, all scientists with no appreciation of art, or all incompetently ignorant of either; for the popular vote is by no means infallibly guided. Surely a more reasonable method would be that the Council should appoint organisers

of the annual exhibition in the interests both of science and of art, acting separately and independently of each other; and appoint also in the same manner competent judges to adjudicate upon the exhibits and apportion awards. The Photographic Society could not also bestow a greater blessing than by deciding once and for all what is art in photography and what is scientific. If it is all science, then there need be no further question of nominating judges on account of their artistic perception or attainments. At present it cannot be denied that whether the judges are artists or not, they apply to the best of their ability artistic considerations in making their awards. We might here inquire what man of science is this year to be found amongst the list of judges? It is instructive also to refer to past catalogues and to see how meagre has been the recognition of scientific discovery or progress. Last year, for instance, a totally new and interesting scientific discovery, that of the application of primuline, was passed over without notice. This year, it is true, the very clever glass cutting machine deservedly receives a medal; but after all, there is nothing distinctly photographic about it.

It is our intention in succeeding articles to give a careful and detailed attention to the pictures and other exhibits to be found in this year's gallery. It is evident, as we have before remarked, that the artistic features, such as they are, are the most prominent, and we shall therefore devote our next notice to a systematic review of the pictures. It will, in the meanwhile, be useful to those of our readers who propose visiting the exhibition if we give here a general survey of the most notable contents.

We have expressed our opinion that the exhibition this year falls much below the usual standard, both in quality and interest. In point of numbers (excluding the apparatus and lantern-slide sections) there are 623 frames, as against last year's 638. Not a very great difference, certainly, but it will be noted that there are a number of frames totally unworthy of such a representative gathering, such, for instance, as snap-shots at races, and the like, of no exhibition merit whatever. On the other hand, the number of abstentions by prominent workers is remarkable. It will be sufficient for those conversant with the photographic world to name as absentees, amongst others, Messrs. Sutcliffe, Austin, Harry Tolley, S. Bourne, Mendelssohn, Pringle, Holcombe, Miss Florence Harvey (whose cattle pictures last year will be remembered), Lyonel Clark, Rev. F. C. Lambert, Bright, and last, but not least, George Davison. Mr. Wellington, also, exhibits but two small pictures, and Mr. H. P. Robinson and Colonel Gale are not by any means so prominent as we are accustomed to expect.

With regard to the abstention of Mr. George Davison, we understand that a large number of pictures which he had prepared with great study and care were actually hung in a prominent position for several days previous to the appearance of the judges, and subsequently, on account of some technical infringement of the rules, were taken down and disqualified. From what we have been able to gather, there could have been no possible inconvenience to the management, or injustice to other exhibitors, had they been allowed to remain, and Mr. Davison is well known as an earnest supporter of the Society, who has rendered it yeoman service in its exhibitions for several years. Into the merits of the question it is not, however, our intention to enter. It is for the Photographic Society to apply its rules as it may think fit. We can only express our regret that so many meritorious pictures by a representative man whose influence and practice make a distinct mark upon photography of to-day, should this year be debarred from exercising that example and teaching which assuredly would

have been of value to many and a gain to the character of the exhibition.

We miss this year any picture which may be called a sensation picture, any which will make a draw and cause general attraction. We can remember the "Carolling" year, when Mr. H. P. Robinson's pretty picture brought a crowd together and for some time afterwards fluttered the pens of captious critics; or the year of Sutcliffe's "Water Rats," or Wellington's "Evening," or on several occasions Gale's popular and telling productions; or again, last year, Davison's "Onion Field," which if not, popularly speaking, a *succès sans contredit* was at any rate a *succès de curiosité*. This year there is nothing of the sort. True, Lyddell Sawyer's candle-light effects, Byrne's tripartite little-cherubs picture, or Warneuke's large and elaborately worked-up figure called Desdemona, will probably have their admirers, but they can by no means be called "pictures of the year." We cannot help regretting, under the circumstances, that visitors have not the opportunity, which some provincial exhibitions and the Camera Club also have had, of inspecting the clever work of foreign workers, such as the Countess Loredana da Porto Bonin, Dr. the Marquis Viana, and Prince Ruffo.

Taking the pictures all round, it may be said that, Davison being absent, there is not a very large number of examples of the modified focus system. It by no means follows, however, that the teaching and example of those who advocate this system has been without effect. On the contrary, it is in many cases very prominent. There is undoubtedly also a greater earnestness in the selection and treatment of subjects; there are not nearly so many attempts to be funny, and so many of pictures whose titles indicate attempts at atmospheric and special effects, or simply "landscape," "twilight," "evening," and so on, as the case may be; a greater simplicity and, as regards groups, an absence or diminution of accessories are evidence that a more artistic spirit is making way. Probably that side of photographic art, or practice, which is known as "professional"—that is to say, the studio portrait taker—is that which has made the least progress; we should, perhaps, rather say it is here that the old and stereotyped methods which have so long disgraced this branch of photographic art adhere to it still, and are as accentuated as ever. We shall be able to return to this point in a succeeding article; for the present it will suffice to say that one and all in this direction are tainted and disfigured.

It may perhaps be useful if in this preliminary survey we point out shortly a few of the pictures which, in our opinion, should attract the visitor's attention. Taking them in order of catalogue, there is first a small, telling portrait of Mr. Perigal (*doyen* of the Photographic Society, and now in his ninety-first year); Gambier Bolton's fine lioness; Cassel's "In the Land of Dreams;" Cembrano's set of pictures, of which the best is, "A Sussex Farm;" H. P. Robinson's "Cuckmere Haven;" Lyddell Sawyer's effects of candle-light; Horsley Hinton's most excellent series of landscapes on rough paper, of exceptional merit; Burchett's "A Knight;" Wilkinson's "Bookworm," a really charming and original little picture; Stevens' skating scenes; Dresser's series on rough paper, which are some of the best things in the exhibition; Maskell's "pinhole" landscapes (very badly hung behind the stove); R. W. Robinson's "A Sudden Squall," evidently inspired by a well-known painting by a French artist; Gale's "In the Orkneys;" and J. C. Douglas' delightful little figure, "Ein Münchener Kind" (foolishly translated in the catalogue "A Child of Munich").

A few words may be permitted with regard to the hanging, upon which we cannot conscientiously compliment the hanging committee. The pictures appear to have been

hung regardless of any arrangement beyond fitting together as best could be done sizes and shapes of frames. Surely, also, Mr. Hollyer's reproductions might have been placed with the other process pictures in the corner allotted to them, instead of being incongruously fitted on the best place on the walls. It may be said also that there is an exceeding diversity in photographic pictures, and it is no more reasonable to place next to each other such diversities than it would be to mix together oil and water colours, etchings and engravings. The hanging committee is, we understand, nominated by the Council. Various reasons are current this year for their choice, but as names are not made public, it would be hardly within our province to refer more directly to what is probably only idle rumour.

We shall devote space at the conclusion of these notices to the scientific and apparatus section. At present, we notice, in the hope that some information may be appended to the frames, Dr. P. Jeserich's illustrations of the detection of forgery. It would be extremely interesting and useful if these examples, which at present do not explain themselves, were to have a few words in elucidation appended to each.

There is not much perhaps to choose between the medalled set of lantern-slides and a set by J. Dore. Still, if it is advisable, considering that nowadays lantern-slide making of high quality is not a singularly astonishing attainment, to award them the distinction of a medal, of the two sets those by J. Dore are certainly superior in technical merit. It must be remembered that the artistic merit belongs to others. Mr. Walter Coll's set of photogravures are admirable, and will go far to enhance the value of the next issue of *Sun Artists*, for which they are destined.

BEGINNERS' DIFFICULTIES.

WORKING under the conditions laid down in our leader of last week, the beginner is now in a position to judge of under or over exposure, and thus form for himself a standard of exposure under given conditions. If on applying our normal strength developer to an exposed plate and gently rocking, the whole of the image flashes out and the plate quickly becomes dark all over, we may assume that we have considerably over-exposed. If, however, on the other hand, on rocking the plate when covered with the developer, only portions appear—that is to say, the so-called high lights, such as the sky in landscapes, or the face or white collars and cuffs only appear, and there is no sign of any dark portion, even after the lapse of some minutes—then we have a case of under-exposure to deal with. Obviously between the two extremes we have a series of more or less under, or over, or correctly exposed plates.

The next point is how to adjust our developer as to make certain that, no matter what exposure has been given, whether correct, under, or over, we may produce as good a result as is possible. The easiest method for the beginner to adopt is undoubtedly the method of slow development, advocated many times in our pages in past volumes. Let us try, then, and lay down some simple rules which may be of assistance to us in this respect. First of all, then, we will modify the developer and take the normal quantity of

pyro, the normal quantity of bromide or restrainer, but only half the normal quantity of accelerator or alkali. Applying this to the plate, we rock the dish gently, and if no sign of the image is visible by reflected light in one minute, we add the other half of the alkali, and continue our rocking. If the plate is over-exposed, we shall see the image with only the half quantity of alkali, and if the image continues to gain in strength all over the plate, we may continue to develop with the half quantity of alkali until the image seems to stand stationary and some portions of film show no further sign of deposit or the already existent image does not gain in density, when we may add the remaining portion of accelerator; in many cases of over-exposure half the normal alkali will be ample to finish development. If the plate is under-exposed, only the very highest lights will be visible after about one minute's development, and in such a case the full quantity should be immediately added. When correctly exposed, this slow method of development will do no harm; it is the best method for obtaining the most satisfactory results from over-exposure, and with a little practice the beginner may at once recognise under-exposure and compensate at once for this fault.

If after developing one of a series of exposures, over or under exposure, he may at once assume that the rest of his exposures partake of the same character, and consequently start development with the most suitable proportions of developer.

The next important point, and one in which most beginners err, is how long to continue development, and, unfortunately, we can lay down no clear, precise rules for guidance. This can only be learnt by experience, and from experience with almost every brand of plate. Many of the commercial plates require development to be carried to a far greater extent than others, because they seem to lose so much more in fixing than others. With some plates an accepted rule is "Continue development till you can see the high lights through the back of the plate." This is a very good rule, and one that should certainly be complied with, but not necessarily for the reason that development is complete but for a totally different reason, which we will now explain. Every beginner in photography knows or should know that we have in a dry plate a film of some sensitive salt or salts of silver which have been affected by light in such a way that the developer can reduce the said salt to the metallic state, and thus form the image. Now, let us see what happens if we continue development after the high lights are visible at the back, or in other words, the whole of the silver salt affected by the light at those particular parts is reduced to the metallic state, and consequently the deposit is as dense as it can possibly be, yet if we continue development and any further reduction of the silver salt takes place elsewhere in the film, we are gaining this increase in deposit at the expense of the high lights; that is to say, the high lights cannot increase in opacity in the same ratio as the other parts of the picture, hence our resulting negative is false in tonality, and the true gradation is destroyed. There are certain cases where this may be of service, but of this more in a future number.

EXHIBITIONS.

SOCIETY.	Place.	Open.	Close.	Last date for sending in.	Secretary.
Exhibition Committee ...	Amsterdam.	Oct. 1.	Oct. 15.		Chr. J. Schuwer, P. C. Hoofstraat 72, Amsterdam.
Am: Phot: Soc: ...	Glasgow.	Sept. 1.	Oct. 3.	Aug. 22.	Wm. Goodwin, 3, Lynedoch Street, Glasgow.
Phot: Soc: of Great Britain	London.	Sept. 23.	Nov. 12.	Sept. 16.	H. A. Lawrance, 50, Great Russell Street, London, W.C.
Phot: Soc: ...	Hackney.	Oct. 21.	Oct. 22.	.....	W. Fenton Jones, 6, Victoria Street, Hackney, N.E.
Art Gallery Committee ...	Leeds.	Dec. 7.	Jan 9.	Nov. 27.	Geo. Birkett, Municipal Art Gallery, Leeds.

Letters to the Editor.

A FALSE ACTINOMETRIC THEORY.

SIR,—“Osiris” seems to be unable to accept the conclusion I draw from the experiments I detail in my last two letters, and therefore thinks that the actinometer with which I tested the light must be wrong. I can only say that I had thoroughly assured myself, by a large number of experiments, that the bromide of silver actinometer used, although not absolutely perfect, is the best thing for the purpose our present knowledge affords, and that its colouration under light has a constant ratio to the formation of the invisible image on an average gelatine bromide plate.

I am further supported by the fact that this particular form of actinometer is in daily use by some hundreds of photographers.

Yesterday I made a critical test on this point. A few books and a ginger jar were placed at one end of a long board and a camera at the other end, and an exposure made on a Barnet rapid plate, in a room darkened by the venetian blinds being drawn down.

The board, with camera and objects, were carried out into bright sunlight, and an exposure made without alteration, except in the matter of light. In both cases the light falling on the subject was tested by my actinometer, and exposures given of the same period of time that the paper took to darken to the standard tint. The details are:—Indoors, light 40 minutes, stop $f/30$, exposure 40 minutes; outdoors, light $3\frac{1}{2}$ seconds, stop $f/30$, exposure $3\frac{1}{2}$ seconds. The light in the darkened room was therefore (tested by the actinometer) 1-694th of the full sunshine, and an exposure 694 times as great was given. The two negatives were developed together in one dish, and both taken out of the developer at the same time.

I enclose the negatives, and I think you will be unable to say whether one appears to have had a greater or a less exposure than the other.

By the way, it seems curious that “Osiris” should condemn in theory a bromide of silver actinometer, and yet in the same letter say, “I can, from experience, speak highly of it.”

Another matter arises in a letter on Canada, by Mr. Fenwick W. Stow, in your last issue. I have not the slightest doubt that the failure of my instrument in his hands in Canada arose from the use of paper which had been spoilt by damp, probably on the sea voyage. I should always seal up the bromide paper in a damp-tight tin before crossing the sea, and if the instrument is always carried in the pocket, the warmth and moderate degree of dryness will keep the paper in use in perfect condition, whether the climate be dry or moist. A gelatine bromide paper, whether treated with a nitrite, sulphite, metabisulphite, or no salt at all, is always hygroscopic.—Yours, etc.,

ALFRED WATKINS.

Hereford, September 26th, 1891.

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A QUEER STATE OF THINGS.

SIR,—No one more sincerely congratulates Mr. Walter Colls on his well-deserved success at the Pall Mall Exhibition than I do, but the making this award has led to such strange anomalies with regard to the Society's rule that “photographs already publicly exhibited within the London postal district will not be admitted,” that, perhaps, it may be as well to get the matter settled once and for all.

Twelve months ago Mr. Van der Weyde was awarded a medal at this exhibition, but on it becoming known that he had shown the photograph at the Crystal Palace and in his shop window the medal was at once taken away under the above-mentioned rule. Now in Mr. Walter Colls' frame there are at least two, if not more, photographs which have been sold all over the country, including London, for the past three years, added to which they were taken by one of the very judges who awarded the medal.

Surely here we have an anomaly without parallel in the annals of photographic exhibitions.

One of the judges is reported to have said that mechanically produced photographs did not come under this rule, adding that he was perfectly at liberty to send a copy of the same photograph to the exhibition each year for ten successive years if he produced it by ten different processes; and this he might easily do, as the name of the processes is legion, and we should then be

treated to the sight of a judge year after year adjudicating on his own work, produced from start to finish by his own hands, if he were selected to make the awards by the votes of the members of the Society.

We know, many of us to our cost, that a coach and six may be driven through almost any Act of Parliament, but surely the rules of the premier photographic exhibition of this country were never intended to be stretched in this extraordinary manner, and I trust that some member who has the welfare of the Society at heart may bring the matter before the next council meeting, and once for all have this queer state of things settled.—Yours, etc.

FAIR PLAY.

* * * *

THE VOLUTE SHUTTER.

SIR,—I freely admit the fact advanced by Mr. Clifford E. F. Nash that there is actually no reversal of motion with the above shutter, and my apologies are due to Mr. J. R. Gotz, the maker of the same, for thus inferring a fault in his excellent shutter. I am only too pleased to thus be set right, especially as Mr. Gotz was kind enough to lend me a block to illustrate the “go and return” type of shutter when such was refused by another manufacturer.—Yours, etc.

E. J. WALL.

* * * *

DISQUIETING RUMOURS.

SIR,—When you want to know anything, write to that fountain of all photographic knowledge, the Editor; and I, in the name of an expectant multitude of your readers, want you to solve the following.

What is the truth in those wild rumours that are talked of everywhere, but of which nobody seems to know the real facts?

I am told that in the gallery of a certain exhibition a popular Vice-President was ordered out by a subordinate official, and that the P. V. P. was so amused by the absolute absurdity of the young man's audacity, and frightened at his furious aspect, that he retired without a murmur—except of laughter.

Then I hear that the same official sent for a policeman, not to ask the time, but to remove a gentleman who called on business connected with the exhibition.

But worse remains behind. I am also told that a set of beautiful photographs by one of our foremost exhibitors was accepted, hung, admired, catalogued, and medalled, and then ordered to be removed by the same officer, the judges and members of the hanging committee standing by like a Greek chorus, aghast, but submissive.

Surely we live in parlous time. Individually I am sorely

AFFRIGHTED.

* * * *

GERMAN CUSTOMS AND DRY PLATES.

SIR,—I have just returned from a photographic tour in South Germany. I took with me eight dozen whole-plates, and declared them at Herbesthal, the frontier, on my outward journey. To my surprise, I was told that I must pay duty on them. In vain I explained that they were not for purposes of commerce, that I was an amateur, that the plates would return to England in a few weeks, etc., etc. All my protestations were useless, and I was compelled to pay four or five marks duty, for which, however, I insisted on having a receipt. I was amused at the method for determining the amount of duty. The officials weighed the plates. The thicker the glass the more the duty! My films were passed without question.

I shall be glad to know if the German customs are authorized thus to demand duty from amateurs upon English dry-plates which are to be exposed in Germany and taken back to England. I have never had any such demand in France or Belgium.—Yours, etc.

WILLIAM MANN.



Sheffield Optical Lantern Society.—At a meeting held on the 24th ult. (Mr. Staniforth, Vice-president, occupying the chair), Mr. J. T. Frith, the Secretary of the Society, gave a demonstration on “Bromide Enlargement.” There was a good number of the members present, and Mr. Frith, who makes a speciality of this branch of the art, was able to deal with the subject in a manner which proved highly instructive and interesting. The lantern used was the “Optimus,” and the exposure given was thirty-five seconds for rapid (rough surface) bromide paper. This being developed with ferrous oxalate (Ilford formula) produced excellent results.

Photographic Procedure.

BY E. J. WALL,

Author of the "Dictionary of Photography."

SECTION I.

THE CAMERA AND ITS APPURTENANCES.

(Continued from page 215.)

Stand, Tripod, or Legs.—This portion of an amateur's outfit too often receives little attention, but it is, I venture to think, quite as important as any other portion of the impedimenta.

To obtain stability and firmness it is absolutely essential that the principle of having the legs wide apart at the top be adhered to; if, as is the case with some commercial stands, the two parts of the leg be clipped together, there is loss of rigidity and greater chance of vibration.

There are three main divisions in stands—(a) two-fold; (b)

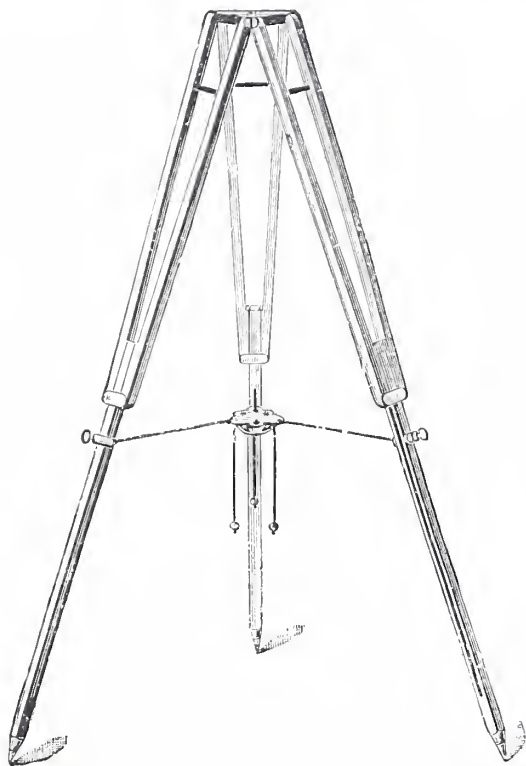


FIG. 62.

three-fold; and (c) four-fold; and they require but general notice. We have already advocated the principle of straining the legs apart for greater stability. In practice also it will be found convenient if the lower portion of the leg is constructed to slide, thus enabling one to obtain more perfect adjustment on uneven ground. The wood of which the legs are made is not of much moment, mahogany, ash, oak, etc., all doing good service. To decide between the three different styles of stands is entirely a question of personal opinion, and also of convenience of carrying. The two-fold are naturally longer and generally heavier than the others. The main points I should observe personally in choosing a stand would be, first, that the stand when set up is rigid and free from vibration; secondly, that it was of such a height that the eye was on a level with the centre of the focussing screen when the camera was fixed on the top; thirdly, that the lower part of the legs were constructed to slide, for the reason stated above; fourthly, that the top was

of good size—in fact, nearly the same size as the baseboard of the camera; and, finally, that the legs were shod with sharp-pointed irons for sticking into the ground, so as to

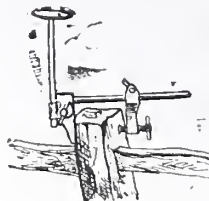


FIG. 63.

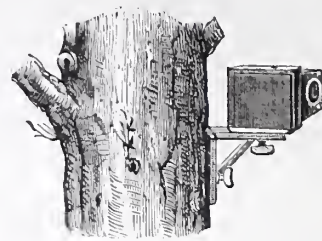


FIG. 64.

avoid slipping. If a stand fulfilled all these requirements, I should be perfectly satisfied with it.

The tripod head is generally constructed of brass or iron. In all cases this should be covered with leather, so as to prevent scratching of the baseboard. Personally, I prefer a wooden top, and, as I have already said, nearly the same size as the baseboard of the camera.

When using a stand in a church or room, where in the first case it is impossible to stick the points into the ground, it will be found an advantage to shoe the points with flat pieces of cork to prevent them slipping, and in a room the same little dodge prevents injury to the carpets. A convenient little accessory will be found in the stand-

holder introduced commercially by the Birmingham Photographic Company (fig. 62.)

Several varieties of metal stands have been introduced, and provided they receive no blow are light and convenient, especially one form which is constructed of steel

ribbon, which closes up very small; but damp or wet may cause rust, and a blow an indentation which will render the stand useless.

With the increase of hand-cameras, small walking-stick stands have been introduced; some constructed of metal, and others of wood, for supporting such light cameras, which can be closed into the semblance of a walking-stick.

Special clips have been devised for fixing the camera to cycles or posts, trees, etc., these being shown in figs. 63 and 64 (Shew's clips) and 65 and 66 (Lancaster's clips.)

Stereoscopic Camera.—See section.

Swing-back.—This is an arrangement by means of which the back portion of the camera with the ground glass and plate can be moved in certain directions, or its position altered with respect to the axis of the lens. If we wish to include the whole of the image of a high building, which is rather near, on the focussing-screen, we raise the rising front as far as it will go, and if we still find that the top of the building is cut off, it is necessary then to tilt the camera as well, and

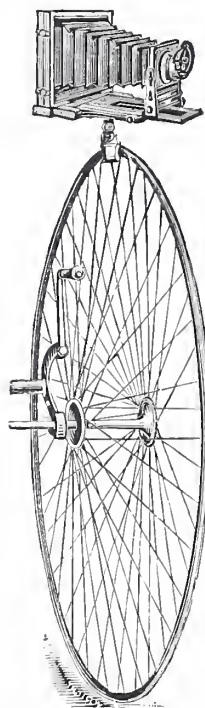


FIG. 66.

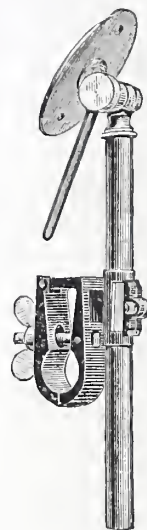


FIG. 65.

the effect of this is to give to the building a very curious appearance, which is shown in fig. 67. Now, by using the swing-back we can place the back upright, and the convergent lines will again assume their parallel form. If we are higher than a building then the back must be swung in the opposite direction if the camera is pointed downwards.

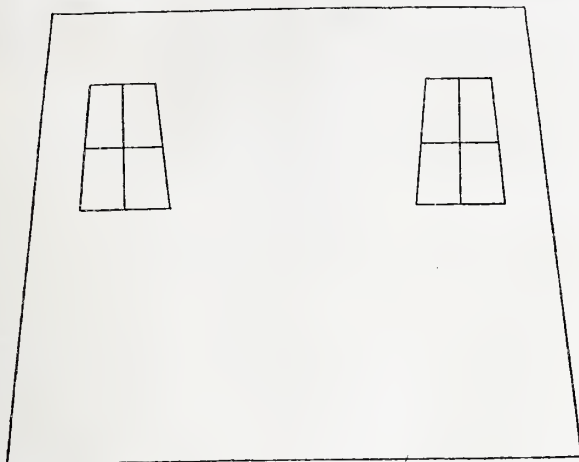


FIG. 67.

The swing back is also useful in landscape and portrait work, as shown in fig. 68.

We will suppose that ABC represents the position of a person sitting down, A being the head, B the knees, and C the feet; now everybody knows that the nearer objects are to the camera the longer the focus of the lens for that object; therefore, if we have our camera back upright it is impossible to obtain the images ABC in sharp focus, at the same time without the use of a very small stop; consequently, by swinging the back out, as shown in the diagram, we are enabled to obtain better definition with a larger aperture of the lens. Precisely the same reasoning will explain the use of the swing-back in landscape work, provided we consider ABC as objects in the landscape at varying distances.

To decide as to which is the best alternative to adopt—tilting the camera or raising the lens—is a question which

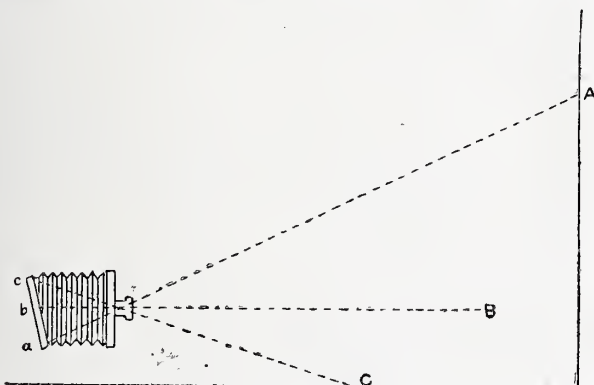


FIG. 68.

frequently occurs in practice, and the following may be helpful. If the subject will not suffer from dwarfing of the upper part, as in pure landscape, the camera may be tilted without using the swing-back. If, however, the subject be architectural or of such a character as would be spoilt by convergence of parallel lines, the camera must be kept upright and the lens raised. If this is not sufficient it will be necessary to tilt the camera, and resort to the swing-back to obtain an upright screen, and thus avoid convergence of parallel lines.

Many cameras are provided, besides the swing-back, with a side swing, by means of which one side of the ground glass may be swung out, thus enabling the operator to obtain sharp definition of objects which are nearer to the camera on one side, without using very small diaphragms.

It is important that for correct results the back should swing from points central with the axis of the plate, as shown in Gotz's patent camera (fig. 69).

Testing the Camera.—When purchasing a new or second-hand camera, or when again using a camera after a period of rest, it is advisable to test the same to see that there is no leakage of stray light, which would cause partial or total fogging of the plate.

To test the camera, place the lens in position and cap it, rack the bellows out to the full extent, fold back the focussing screen, and place the head, so as to look inside the camera, cover the head with the focussing cloth, so that no light penetrates anywhere into the camera, wait till the eyes have become accustomed to the darkness, and then examine carefully to see whether any light leaks in. It is advisable to obtain the assistance of a friend, who should walk round the camera carrying a lamp or candle. The most likely places to find leakages are in the folds of the bellows and corners of the same, round the flange of the lens, round the loose front if such be used, and occasionally from underneath the lens cap. Any small pin-

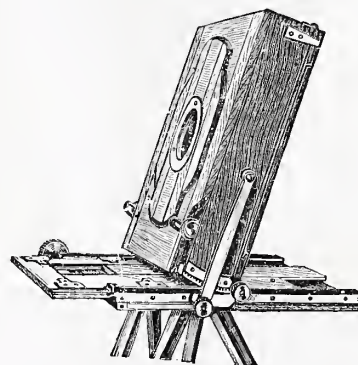


FIG. 69.

holes in the bellows may be stopped by fastening on the interior a small patch of black court plaster, or a piece of black indiarubber cloth with cement or solution of indiarubber.

Testing the Dark Slide.—It is extremely annoying, on developing a plate, possibly exposed on some subject which cannot be again met with, to find a broad streak of fog on the plate, caused by light

having obtained access to the plate through an imperfect dark slide.

To test a slide, fill it with plates, and lay for five or ten minutes on a table in front of a window, then develop the plate, which should show no sign of reduction. The most likely places for light to find entrance are at the hinge, the corners, and the top, where the shutter pulls out.

Another annoying cause of trouble arising from the dark slide is the fogging of the plate by the material which forms the hinge; this probably arises from some emanation from the material, and is particularly noticeable when leather is used. Various remedies have been suggested, but I am not aware of any one being an actual proved remedy; coating the hinge material with thick solution of india-rubber, chromated gelatine or thick collodion have been suggested; but the only effectual remedy is to have the offending material removed, and replaced by black twill, or stout calico, and blackened.



Cornish Camera Club.—The annual supper and meeting was held on the 22nd ult. at the Union Hotel, Penzance. The following officers for 1892 were elected: President, Mr. W. E. Baily, F.L.S.; Vice-president, Dr. Vivian; Hon. Treasurer, Mr. W. H. Percy; Council, Messrs. Barnes Richards, N. H. Symons, and J. Bramwell, junr.; Hon. Sec., H. Tonkin, 22, Market Place, Penzance. A special meeting will shortly consider the advisability of admitting professional photographers to the membership of the club.

The Lantern, and How to Use it.

By C. GOODWIN NORTON.

CHAPTER I.

THE object of these papers is to show the construction of the various kinds of lanterns and accessories now in the market, and how to obtain the best results from them. The term magic-lantern is usually associated with an evil-smelling apparatus, suitable only to amuse children. The optical lantern, though constructed on precisely the same principles, is fast becoming the most popular of scientific instruments. While the microscope and the telescope can only be used by one or two persons at the same time, and each requires a certain amount of training and study to enable those using it to appreciate the wonderful things shown, the optical lantern is capable of showing pictures to thousands at one and the same time., its capacity being limited, not by the cost of the lenses or the size of the instrument, but by the power of the light.

We will first consider the various kinds of illuminants and their relative powers. The purchaser or maker can then decide which will be most suitable for his particular purpose and—his pocket.

Illuminants.—Discarding all forms of colza or sperm oil lamps, we come first to the paraffin lamp with a single wick and glass chimney, such as can be purchased anywhere for a few pence; this will illuminate a picture 2 feet in diameter, and is suitable for the nursery if proper precautions are taken to prevent overheating and upsetting.

The next better lamps are the Duplex (two-wick) or the "Silber," with circular wick; either of these will show a picture 4 to 6 feet in diameter, if the best paraffin such as "Young's" or "Strange's" be used. A great deal depending upon the way the wick is trimmed, this will be more fully treated later on.

The above lamps require no particular description, as they are in every-day use. But there are special lamps used only for lantern purposes. Several kinds of these are sold by different makers, but all are constructed on the same principle, viz, the substitution of a metal chamber and chimney for the lamp glass, and placing the wicks, two or more, at right angles to the picture, the reservoir of oil being a considerable distance below the flame, surrounded by a draught of air, keeping it quite cool and free from any chance of explosion. Here we may mention that explosions are caused by the heated vapour of the paraffin, and not by the paraffin itself, consequently great care should be taken to keep the lower part of the lamp well ventilated, and as far from the flame as possible. The accompanying illustration gives an idea of the shape of the two, three, and four wick lamp, as at present sold.

The Pamphengos lamp made by Hughes, of Kingsland, is claimed by him to give sufficient light to show a coloured photograph 12 feet in diameter.

Fig. 1 can be obtained from all dealers in lanterns, who will tell the purchaser that a 10 feet picture can be shown with it.

It must always be remembered that when makers try their own

conditions, and it by no means follows that the purchaser will be able to obtain the same results until he has had a considerable amount of practice.

In Mr. Hughes's lamp, the "Pamphengos," the four wicks, each 2 inches wide, are placed parallel, and enclosed in a circular chamber of metal, which has a glass covering an aperture on the side next the picture and another opposite, outside which the reflector is placed to protect it from the great heat inseparable from oil lamps. The pieces of glass closing these apertures are annealed by a special process, and a fracture by heat is very rarely met with.

There is very little metal used to connect the chamber to the oil reservoir, so that an accident by over-heating is impossible. The chamber itself being circular, nearly resembles the glass chimney of an ordinary domestic lamp; this ensures perfect combustion, the light being white, not yellow, as that produced by some of the cheaper forms of lamps.

Above this chamber is a tall metal chimney, which ensures a good draught, forcing the four flames into one of great brilliancy. The chief fault of this lamp is its high price, the cheapest make being £1 1s.

Fig. 1 differs slightly from Mr. Hughes's pattern, the chamber being rectangular, with a semicircular top, the wicks being placed, not parallel, but in the form of a W; this is done to prevent flickering. One end of the chamber is covered in with a piece of plain glass, the other end forms the reflector, which is protected from the heat by a piece of mica. The metal chimney is made in two or three pieces, to save space in packing.

There is also a five-wick lamp sold, but this does not appear to give a better light than four wicks; indeed, some operators pin their faith to one of three wicks.

The wicks of all these lamps are raised or depressed by pinions in the usual way. To properly trim the wicks is a very difficult matter, it being nearly impossible to do so with an ordinary pair of scissors, however sharp they may be. Lamp scissors, made with a wide flange on one side, will cut the wick evenly after a little practice. But the best instrument to use is a lantern wick clip, which will trim the whole length the proper shape at a single cut. When this is once done, it is only necessary to lightly rub off the charred ends to make one trimming last for several occasions.

In filling the lamp, the greatest care should be taken not to allow a single drop of oil to be spilled on the outside of the lamp, and to see that the wick trimmings are removed, as they are very apt to fall between the wicks and difficult to remove therefrom. It is generally from one of these causes that the disagreeable smell so frequently associated with paraffin lamps arises, and not from the oil which is being burnt.

Having filled the reservoir nearly to the brim, turn back the chamber, which is hinged to the front portion of the frame on which it rests, lower the wicks until they are level with the top of the metal work, light them, replace the chamber, and put on the chimney. The lamp should then be left for fifteen minutes, during which time it can be occasionally watched through the small hole in the back of reflector. The flame should be all the same height, and nearly straight across from back to front, rising only a little in the centre. The flame is opaque, or nearly so, therefore if the front corner shoots up higher than the rest it hides the centre, which is the brightest part, and causes a shadow to appear on the picture. But if the wicks be properly trimmed, all the flames are deflected into one of intense brilliancy by the draught induced by the tall chimney.

At the end of the time named the two centre wicks of the

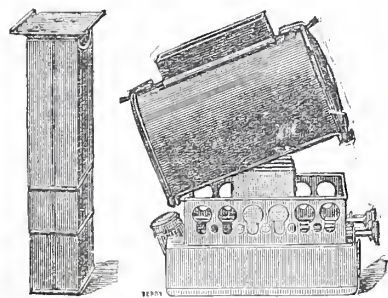


FIG. 1.—ORDINARY OIL LANTERN.

productions they do so under the most favourable con-

four, or the centre one of three, should be a little higher than the outside ones, and all should be turned up as high as they will bear without smoke appearing at the top of the chimney. When once this is done the lamp requires little or no further attention.

These lamps require about one pint of oil per hour. A better light can be obtained if the wicks are taken out and dried before being used again.



How I Started a Successful Society.

By A PROVINCIAL.

(Continued from page 219.)

HAVING in my last brought this record down to the period when the executive had been elected and myself chosen president, I will proceed, in conformity with my promise, to append a few remarks anent the qualifications and the duties of the chief officer. Although it has been my aim to fulfil those duties as are hereunder described, I have unfortunately not the qualifications which I consider it is well that a president should have; this I state lest any hyper-modest individual should refuse the proffered honour because he fancies himself deficient in one or more of those qualities I speak of as desirable. As regards what abilities are requisite, very much depends upon the system of government in vogue. Some societies are managed entirely by the secretary, others mainly by the committee, a few by the vice-president, some even by the treasurer. In our case, those whose opinions were listened to strongly favoured the view that the president should be a real live one, one who should not merely reign but should rule; as the selected ruler, I am inclined to approve the principle, which some folk will think is natural enough on my part, and yet I do not say this because I enjoy the pleasures of power (such as they are), but because I recognise it ensures the more rapid and satisfactory transaction of the society's affairs. For after all, *pace* the democracy, personal rule is, and always has been, recognised as the most perfect and efficient form of management, provided the right person is in power. Not to go higher, the mighty empires have been mightiest under a beneficent despotism, the despotism of a master mind; and passing from one community of human beings to another we find the same principle obtains, whether the rulers are popes, commanders, mayors, or editors. Even in the family circle is there not paterfamilias to illustrate the necessity of a kind of absolute monarchy? There is certainly one leading objection to the universal application of this principle, *i.e.*, suitable despots do not abound. Richard Cromwells are plentiful enough, but masterful Olivers are, alas! hard to find.

On this point a few words to members of societies: make sure that your guide is trustworthy, and then trust him "all in all;" give him a free hand, and be a little blind to his failings. Do not expect he will not make mistakes, even at times serious blunders, but be sure that they will be fewer than a parliament of kings will perpetrate, and will be more easily remedied.

Now for the ruler's qualifications. Firstly, he should be a local resident with sufficient leisure to attend 90 per cent. of the meetings (except during the long vacation); he should possess a general knowledge of the now numerous branches of photography, and if not versed in chemistry and optics, should make himself acquainted with these sciences; he ought to have some capacity for ordinary business affairs, and be capable of stringing a few sentences together, without painful blundering or unduly maltreating the Queen's English; he should be devoid of temper, and able to sit with imperturbable calmness, while heated orators are slinging hard words at each other, and should not mind if a few stray shots hit him; he should also *always* be ready to pour oil upon the troubled waters, and be able at a moment's notice to suggest a way out of any *impasse* which may arise; he should—but I think the above is enough for the making of a tolerably good president, providing only he will adopt the declaration of "good Captain Reece," the famous commander of *The Mantelpiece*:

"By any reasonable plan
I'll make you happy if I can;
My own convenience count as *nil*;
It is my duty, and I will."

And here I will touch on the subject of presidential duties. In my own case I have always made a practice of personally drawing up the agendas both for committee and for members' meetings taking such opportunities as offer of consulting the secretaries.

At committees, the president takes the chair, confirms minutes (he should be sure the secretary has included all which ought to be recorded), presides over the election of new members (he should not omit to make any necessary enquiries respecting candidates when there is a doubt as to their desirability), and reads the correspondence.

He should see that the accounts are in order and the books properly kept, and be prepared to explain the various subjects which require the committee's attention.

It will generally be found that the committee is inclined to wander from one question to another without settling any; this tendency must be gently but none the less firmly checked. There is likewise a chronic disposition to break off into the discussion of purely technical matters in no wise connected with the affairs in hand; therefore unless the chairman makes a determined effort to push the business through, it will not get the attention or thought which it may require.

At ordinary meetings the duties are, *mutatis mutandis*, very much the same; but in addition the president should always say a few words (and let them be to the point) explanatory of the subject for the evening; he should also, in suitable terms, introduce those who are set down to read papers or give demonstrations; subsequently he should endeavour to induce discussion amongst the audience, and finally be ready to propose a vote of thanks, unless it happens that there is some one else present who is particularly qualified to do so.

Another task which falls to a ruling president is drawing up the plan of campaign and making suitable arrangements for carrying it out.

Should he fortunately be acquainted with a number of leading practitioners of photography, this portion of his labour will be considerably lightened, but, anyhow, on him is the burden of finding distinguished outsiders who are willing to hold forth on various branches of the art-science as may be needed.

Besides ordinary meetings there are what are known as extra ones, at which, by virtue of his office, it is incumbent that the president should take a leading part. Among such are conversations, special invitation lantern shows, public exhibitions, smoking and other concerts, public dinners, etc.

When I first took office I had not contemplated or thought of any of the above gatherings, and very uncomfortable I felt when the first of them came off; but let me assure all would-be heads of societies that by means of the practice obtained in presiding over committees and over the ordinary meetings, one's faculty of speech becomes very much enhanced, and hence I found no particular difficulty in prosing at reasonable length on those public occasions where circumstances made it my duty to do so.

In addition to the above calls upon the time and attention of a president, he is usually expected to play the part of host to such guests as require to be entertained by the society.

It is to be remembered that as a stream will not rise above its source, so in some sort a society is the measure of the height of its president's activity and enthusiasm; directly he relaxes his efforts in helping forward his society, it is time for him to think of making way for another; this remark applies also to secretaries. Nothing is more pernicious than an inert or indolent executive; "Still achieving, still pursuing" must be the watchwords, or a gruesome blight will settle on the society and eat up its life.

I have been told before now by those interested in other societies that in spite of the provision of undeniable technical attractions members fail to attend meetings.

"You provide all these things," said I to one who lamented—"all this strong food; but do you see that there is salt on the table?" "I don't quite understand," my wondering friend replied. "In other words, do you add a strong flavour of enthusiasm, a spice of anecdote, and a pinch or two of pleasantry to help season this 'too, too solid flesh'?" From the answer I received, I gather that they did not, and that, as a rule, the lectures were perfunctory performances, while the auditors were a mere handful of bored amateurs; and yet the society I have in my mind includes in its ranks a large number of members. This melancholy condition is, I think, accounted for by the fact that the executive are all old stagers, out of touch with the less

experienced members, and, like extinct volcanoes, the fires of their fervour are burnt out in them, and hence they chill, rather than warm into activity, the aspiring tyro.

From a consideration of the foregoing hints respecting the duties of president, my readers will readily enough conclude that although it may in good sooth be said, "Of pleasures there are many," it is hardly correct to add, "And of troubles there are none." Indeed, at times they come thick and fast, like snow flakes in a blizzard. Then it is that the value of having one man to whom all may turn for guidance is apparent. But enough of presidents; for although a society choose never so wisely it cannot obtain a paragon made to pattern, but must needs take the best it is able to find; to emphasise which I will cite a passage from "Sesame and the Lilies," which will carry more weight than anything I can write:—

"Granting that we have both the will and the sense to choose our friends well, how few of us have the power; or, at least, how limited, for the most, is the sphere of our choice. Nearly all our associations are determined by chance or necessity."

It follows then that where there is no one of the first quality a society must put up with an inferior article, and wait until the "magic of patience" gives it a fully qualified administrator.

How did we cater for our members during the first year?

To begin with our meeting-room. We succeeded in getting one, of which we had the sole use, centrally situated in a good thoroughfare, and large enough for our ordinary meetings, with a smaller apartment available for dark-room. For this we paid £18 per annum, which is perhaps a somewhat excessive rent for a society in its first year, but we desired to test the question of how far such accommodation would be used by the members, and, considering that the rooms are available from 10 a.m. to 11 p.m., they ought to be worth that rent to the society. In selecting rooms the following points were borne in mind:—

(1) The situation, which should be accessible from all parts of the district.

(2) The right of access at all hours.

(3) The right of smoking and refreshing.

Besides rent, the following charges had to be met: cleaning (2s. 6d. per week), gas, and firing.

We subsequently managed to obtain other rooms with similar accommodation at a yearly rental of £10.

As regards furniture, we were fortunate enough to get all we needed for a start given us by various members; one contributing a table, another chairs, a third apparatus, and so forth. In respect to the dark-room and its fittings, we were equally lucky, a prominent and expert member presenting us with developing sink, taps, etc., and, moreover, himself doing all the plumbing and gas-fitting.

Our rooms taken, furnished, and fitted up, suitable subjects for our meetings, which we decided to hold fortnightly, had to be provided. Our experience teaches us that there are five main sources to draw upon:

(1) The members.

(2) Distinguished photographers outside the society.

(3) The manufacturers.

(4) The photographic press.

(5) The optical lantern.

Taking these seriatim, the evenings upon which members hold forth are the least attractive. What the latter individually know, say, and do is apt to be stale, and hence fall flat; besides, the special gift of entertaining, and of lucidly handling a subject is rare to find in the ranks of a society.

The distinguished outsider is generally a great draw, but oft-times also a great trouble, and sometimes a serious expense to societies whose funds are low. It is, however, passing strange it occasionally happens that men of light and standing whose names are good to conjure with in the highest photographic circles fail to bring together numerically decent audiences at some of the second-rate provincial societies. So much for fame. This predicament is slightly embarrassing to the executive who have persuaded the big gun to come down and blaze away before an assemblage of hero-worshippers! Then is the presidential adroitness shown in the ability to "soothe the savage breast," and make amends for the callous indifference to genius shown by *profanum vulgus*.

Coming to the third category, the manufacturers. These we found always ready to help in loaning newly-designed apparatus required to illustrate papers, or in providing demon-

strations of various processes, such as carbon printing or platino-type.

The photographic press is another source from which to obtain the charm of variety for ordinary meetings by means of sets of prints, lantern-slides, stereo slides, etc., etc., which the editors place at the disposal of photographic associations. It happens that we have not hitherto had experience of any such except those sent out by the AMATEUR PHOTOGRAPHER; these have always been greatly appreciated by many of our members, the particulars on the entry forms which are pasted on the backs of prints being specially welcome. No doubt similar sets sent out from time to time by the conductors of other journals will be found acceptable, even if not up to the high standard of the AMATEUR PHOTOGRAPHER'S collections.

Finally there is the Optical Lantern; this in large type, as is betting the most valuable of society evening attractions, one never known to fail with us. Depend upon it that if you cannot fill your meeting room with a "slide show" there must be something amiss with the management of your society. Besides its efficacy as a good draw, the lantern is such a charmingly simple entertainment for a harassed secretary to "put on;" for in these hand-camera days, while presentable prints are almost as rare as dodos, lantern-slides are nearly as many as are good resolutions. It is not to be gainsaid that there exists a redeeming quality in an average lantern transparency, transforming that negative which would yield but a common-place print into a thing of beauty whose chief fault is its too brief existence, living as it does but a few short moments, while it takes part in that procession of shadows which hurry across the screen even as the visions of dreamland.

"Or like the borealis race

That flit ere you can point their place."

In making a selection from the above sources we of course gave due regard to variety, nor did we forget the claims of the great unskilled. Our arrangements are usually made a month in advance, sometimes even still more previous; and we have found it advisable to periodically notify members of the subjects of meetings, although the trouble of doing so is considerable. In view of the possibility of eleventh-hour disappointments, the president of a society should keep by him a paper ready for reading at a moment's notice, so that complete failure may not ensue at a gathering of members.

I propose to give our experiences of recruiting (which I fear is much neglected by many societies) in my next, and also refer to the kindred subjects of reporting and advertising.

Reviews.

Die Photographischen Objectiv, ihre Eigenschaften und Prüfung.

By Dr. J. M. Eder. Vol. i, part iv., of "Ausführliches Handbuch der Photographie." Published by Wilhelm Knapp, Halle-on-Salle; price 6s.

The publication of the revised edition of Dr. Eder's incomparable Handbook proceeds apace, and the part before us is fully up to the standard of the previous parts. The work is divided into sixteen chapters, and its two hundred and seventy-three pages treat of the introduction to photographic optics, the history of the camera and objective, the pinhole camera, simple lenses, aplanats, euryscopes, rectilinear and similar symmetrical aplanatic lenses, the antiplanats, portrait lenses, anastigmat and triplet, orthoskope, Sutton's water lens, globe lens, pantascope, periscope, etc., sets of lenses, mirror lenses, mirrors and prisms for reversing the image, diaphragms, and testing and choosing a lens. The volume before us contains the very latest notes on lenses, their construction and uses, and many useful tables have been introduced. The new lenses of Zeiss and Hartnack are fully described and figured, as well as the older forms of lenses of the leading types. In the chapter devoted to diaphragms, we have a summary of the principal methods of marking the same, and the calculation of the duration of exposure with different diaphragms. The instructions for testing lenses are very full and complete, and yet by no means too abstruse. Numerous diagrams are introduced when required, and the work is further illustrated by three photogravures of Dr. Steinheil, Voigtländer, and Petzval.

"Amateur Photographer" Monday Evenings.

ON Monday last was inaugurated at the offices, 1, Creed Lane, E.C., the series of lectures, demonstrations, etc., which it is proposed to give, under the auspices of the AMATEUR PHOTOGRAPHER, during the winter months. The room, which holds comfortably between seventy and eighty people, was quite full, and the audience evidently thoroughly appreciated the subject matter placed before them. As is well known, it has ever been the object of the AMATEUR PHOTOGRAPHER to raise the tone of photography, and to widely advocate the application of the rules of art as far as possible to it, and, that being so, it was very fitting that the series should be opened with a lecture on "Pictorial Composition," by one so well known in the art world as Mr. P. H. Newman.

The proceedings commenced at eight o'clock, and in introducing the reader to the meeting, Mr. C. W. Hastings (the Editor) pointed out that the proprietors of the AMATEUR PHOTOGRAPHER were exceptionally situated in having a room sufficiently large to give a lecture or demonstration in, and he hoped that the future meetings would be as well attended as that, the first one. If they were so, it would be a matter for consideration whether the meetings should not be held once a week. The subjects dealt with would be very varied, and would, he hoped, tend to help those who came, in their manipulations, and make them strive for the highest artistic effect in their work.

Mr. Newman said the lecture he was about to give was not new; what he would tell them would not be new; there was nothing new in art. Some one said, somewhere, some time ago, that "there is nothing new under the sun." Some one was undoubtedly right, in the main, but he was not a photographer, or he would have had misgivings; misgivings, perhaps, not as to the newness of the art of photography, although the last Assyrian clay tablet has not been deciphered yet, nor the last of the Egyptian papyri unrolled, and although the old world goes on making revelations nowadays in such a quite sensational and *fin de siècle* manner. No, his misgivings, had he been a photographer—especially an amateur—would have been pretty general; he would have believed in most new things for a time, and certainly at least in the last, new thing, and as the advertisements advise, he would "see that he got it." Yes, that insatiate and still unsatisfied craver for a new thing; that restless cavy, who epitomised in one type the last quarter of the nineteenth century; that person possessed above all people by the demon of unrest, even in our time—the average amateur photographer—wanted not only a brand new camera and lenses which would do everything but think, with plates and developers to match, but he had wanted to make (and believed, at any rate, for a time, that he could make) for himself new pictures by brand new rules, and in default of finding these ready to his hand had, now and then, had the temerity to formulate some for himself. He had no message for that person and would warn him from the room, for his presence would, while doing no good to himself, only disturb the placidity of those who believed with the reader that photography, however new as an art it be, did not give its votaries new eyes, new brains, or new sentiments, but was ruled, like its elder brother and sister arts, by the same laws of pictorial composition we are content to think eternal, and more than suspect are divine. They must not think him harsh in that serious admonition, nor personal in any quarter; but bear with him rather, and support him in his firmness, inasmuch as we know that disorder of unrestfulness was catching, and there was no knowing who amongst them might next take the insidious disease, nor to what lengths it might carry them; our ideas of pictorial composition might get inextricably mixed up with lengths of foci, a complication of the malady he had witnessed which was simply disastrous. He was not going to discuss foci at all, it was not his *métier*; there were gentlemen of eminence amongst them, whose high qualifications were admitted and well known, who would tell them much better than he could what lenses will and will not do, and they might rely on their opinions. He would only caution them, however, in one particular, and that was, that some of them, having, he supposed, a mild attack, an incipient restfulness, were not always quite decided what it was they wanted their lenses to do. Neither did he want to talk much about paper to-night, although as he saw a tendency lately to traverse and upset his dicta on printing surface, he must not pass it altogether; his excuse must be, alas!

that their art could scarcely be accurately described as one of the arts of peace; for one of the features of photography was, as they knew, that there was pretty generally a paper war going on. Now he was quite prepared to be met at the outset by the outcry, "What stale nonsense! Whatever worn-out rubbish you may quote from Burnet or Harding, or derive from the old and dilapidated masters, you can't take liberties with nature and shift a group of poplars, a steeple or a mountain, to suit your pedantic persuasions in photography, as you permit yourself to do in a sketch or water-colour drawing. Best let nature shift for itself," etc., etc. That we cannot do these things in photography that are the licenses of the other pictorial arts, let us admit at once; so much the worse for photography perhaps. But they had to make the best of photography if possible, and the best of photography was this, that if they were really in earnest in search of the picturesque, the best photographer, *i.e.*, the man who was the best artist, would, other things being equal, give the best picture. There was no doubt about it, it was being proved every day; the worst and the best of photography, after all, lay in the man and not in the tools. "The man and not the tools," of course. For instance, look at Jones. "What in the world is Jones doing? He has been fidgeting about amongst these boulders for the last half-hour at the risk of his neck and his sticks; he has only taken one shot this morning. I have taken a dozen. Why don't he fire away?" Listen to the hare and the tortoise. The hare's negatives are exuding hypo amongst the "spoilors" on a damp shelf now, but the tortoise has won a medal; for not having either broken his neck or his sticks, he has with infinite pains found the very spot where the church tower comes in just right with the trees, so hence the straggling village creeps down to "the haven under the hill." Ah! and how he waited for the light, too! And it came, as everything comes to those who can wait, just in time to catch the fishing-boat with the big white sail before she put to sea. Look how she comes out against the deep shadow, bringing the light down into that corner exactly where it is wanted. See, too, how the hill greyly softens off in the modified light of the lovely afternoon. "Yes, Jones has got a picture; I can't show it you, I regret to say. Why can't I get a picture? I am a better photographer, you know, than Jones." And so on. Well, let us see what Jones is made of, what manner of man he is, now we know what work he can do. And it turns out that Jones perhaps did not take lessons, even in a school of art; self-taught, and that sort of thing. But he was always fond of pictures, and it is said he can tell a Hobbema from a Cuyp when he sees them together, and he has said that he used when a boy to copy engravings, old steel-plate engravings—the kind of illustrations you don't find in books now, photography having improved them out of existence. Jones takes his sister to the Academy for their annual headache, and visits the National Gallery as a religious obligation twice a year. I am told he once borrowed Burnet, and actually possesses a copy of Harding. A curious fellow, Jones! Knowing something of Jones and a little of Harding, I thought I might do worse, perhaps, than bring some of Harding's ideas on pictorial composition this evening, that we might look them over together, for I think that many of the things he points out for the consideration of the painter may be exceedingly useful to the photographer."

At this stage the optical lantern was brought into requisition and some of Harding's pictures thrown on the screen, the lecturer pointing out the faults and beauties in the composition of them.

Mr. Newman continued:—"What have I told you? Pictorial composition is the art of putting picturesque things in a picturesque way; that is, not putting them absolutely side by side, or immediately one on top of the other, nor at equal distances, nor four square, nor putting the least important thing in the most important place; if you can do this, and can arrange the lighting to get contrast without patchwork or spottiness, and obtain a breadth of effect conducive to the prominence of your principal object, you will be carrying out in photography what is aimed at in painting; and while satisfying yourself and your beholders, you will be doing much to lessen the flood of bad photographs that are giving your ignorant brethren the basest ideas of art, and doing not a little to lift it out of the mire to its proper place again. In art, as in all things, history repeats itself. The refined æstheticism of ancient Greece was debased by the Roman architects, and even Greek artists of the late imperial times were employed, and prostituted their glorious traditions by travestying them in the luxurious villas of Her-

culaneum and Pompeii. It required that art should die and be born again in the last throes of the empire at Byzantium, and be inspired by a new faith and a northern fervour in the Gothic periods, before it was fit to be married to the sleeping beauty of the centuries, the bride of the Renaissance, who, bringing in her train, and as her dowry, the new learning, the perfumed breath of the garden of the intellect, the Greek and Latin classics, was to add the graces of refinement to the life of the fifteenth century. This marriage, we know, was fruitful in an abundant family of great names, masters in every form of art, and whose works remain to us now, for the most part unrivalled. Then within a century or two this mighty offspring we see dies down, and art again appears to be entering a chrysalis state as taste declines in the times of the later Louis of France, and assumes utterly monstrous forms in the Rococo and our Georgian periods. Who, then, shall wonder that in these days art has to make enormous struggles, and, half-blinded by what she has passed through, her true path is not distinctly traced before her? Who shall wonder if, sometimes, she staggers with uncertain step, and lifts up an uncertain voice? Who shall wonder at her calls for aestheticism, on the one hand, or her clutches at realism on the other? None. No, we should rather wonder and be thankful in a materialistic age that she is alive at all: and let us, trusting to those clear lights that have burnt for our guidance through the ages, do what we can to assist art to take her stately way again, and keep its even tenour. To do this as it behoves us to do, unless we would be branded by posterity with puerility, and stigmatised as blind guides, if we pretend to make pictures, or play with art in any way, it should be in no careless and selfish spirit, but for the ennoblement of the race. Pictorial composition is a great power to this end: and if, at the risk of weariness, I am earnest in pressing upon you the importance of its study and comprehension, it is because I feel and know its eternal truths will, as they should be, be paramount when those passing fancies whose experiments, as futile as they are frivolous, have passed away."

Applause was frequent during the lecture, and when, at its conclusion, Mr. Newman had some of his own lantern slides thrown on the screen the applause was heartily renewed. Some of the Alpine views with clouds were magnificent.

On the motion of the Chairman, a hearty vote of thanks was passed to the lecturer, and a vote was also passed to the Editor of the AMATEUR PHOTOGRAPHER for his enterprise in establishing the series of which this was the first.

In replying, Mr. Hastings reminded the audience that the next meeting would be on the 12th inst., when Mr. Valentine Blanchard would demonstrate his process of platinum photography.

Exhibitions.

EXHIBITION OF THE PHOTOGRAPHIC SOCIETY OF GREAT BRITAIN.

APPARATUS DIVISION.

THERE is undoubtedly a lamentable want of novelty in the apparatus section of the 1891 Exhibition of the Photographic Society of Great Britain. A glance over the published patents that have been taken out during the past twelve months for inventions in photographic apparatus would lead anyone to believe that enormous strides had been made and wonderful improvements effected. It is, therefore, not a little disappointing to find that in the whole collection of apparatus exhibited there are not half a dozen which can be termed novelties. There does not seem to be that amount of enterprise in the photographic material dealers and manufacturers' that is exhibited in other trades.

Undoubtedly, the best and most interesting exhibit in the whole exhibition, and one which we should like to draw the attention of our readers to, is the machine shown by the Paget Prize Plate Company for cutting up photographic dry plates into different sizes. This machine is invented and patented by Mr. Wilson, of the Paget Prize Plate Company. It is admirably constructed, a perfect picture to look at, and a marvel of ingenuity. Amateurs, as a rule, take great interest in any of the machinery or appliances by which the materials they use are constructed, and the advent of this machine will be welcomed by them when they

fully realise the benefits they will derive from it. This machine works by hand or power, and is able to cut as many as two hundred half-plates or four hundred quarter-plates per hour! A revolving table is fitted with four platforms for holding the plates to be cut. Supposing we require, for instance, to divide whole-plates into four quarter-plate sizes; a plate is placed loosely into one of these receptacles, and the table revolving brings the plate into position beneath a sliding bar, to which is fitted a cutting diamond. Before, however, it attains this position, it is, by an admirably constructed piece of mechanism, brought into absolutely perfect position. The diamond then descends and runs along the plate, making a cut across it lengthways. The plate then proceeds on its journey, and halts beneath another diamond, which cuts it across breadthways; when the plates return to the operator, they are easily divided into the four quarters. The speed of the machine is practically only limited by the ability of the operator to remove the cut plates and substitute perfect ones for them. One of the chief advantages that will be experienced by purchasers of plates cut by this machine will be absolutely perfect equality in size, thus entirely removing the trouble and annoyance experienced by many users of tightly fitting sheaths or dark slides in trying to force badly cut plates into them. Amateurs should certainly make a note of this. A medal has been awarded for this machine, and it certainly deserves it.

Messrs. Effelein and Co. show a couple of frames of burnt-in photographs. These are mostly portraits of different colours burnt into glass, and the image is apparently as hard and as indestructible as the glass itself. In the production of stained glass windows and indestructible window transparencies, this process is apparently destined to play an important part. The results shown, however, are not quite up to the required standard, but the process being a new one it is perhaps hardly fair to criticise it too severely. This firm also show some little china vessels having photographs burnt in them. We have seen better work in this direction, however.

Messrs. Archer and Sons, lantern specialists, exhibit a specimen of their Ideal lantern. It is a really well constructed piece of apparatus fitted with a number of novel improvements, notably a new single automatic dissolver and slide changer.

The Birmingham Photographic Co., Ltd., show a collection of apparatus, among which we may mention a new form of printing frame. This frame opens out like a book and allows of the whole picture being examined during the printing operation without shifting its position in relation to the negative. Some new forms of porcelain developing dishes, plate lifters, lamps, washing apparatus, etc., are also shown.

Mr. E. S. Bruce shows a novelty in his "Aerial Graphoscope." This consists of a flat lath about six inches wide and some four feet in length. By means of a suitable arrangement this is made to spin round at a tremendous speed, and upon it the images from a magic lantern are projected. They give a peculiar solid appearance as if the image were suspended in mid-air. The lath is, of course, painted white and darkened towards the centre to allow for the difference in speed of the outer and central portions. Although this form of apparatus may be said to be new, the idea is a very old one, as it is practically the same as the old method employed by the magicians and astrologers of ages ago, when they were in the habit of projecting images upon smoke to mystify our ignorant forefathers.

Various forms of hand-cameras are shown by Messrs. Griffin and Sons, Messrs. C. Harris and Co., the London Stereoscopic Co., Messrs. S. Wilson and Co., and Mr. T. Samuels. Messrs. W. Griffiths and Co. also exhibit a number of hand and other cameras, the prices of which are exceedingly reasonable.

Messrs. Ross and Co. exhibit a case of their world-renowned lenses.

Some interesting specimens of thio-carbamide reversal produced with Professor Reynolds' tetra thio-carbamide ammonium-bromide with eikinogen lithia developer are shown by Colonel Waterhouse.

One or two firms also exhibit sets of india-rubber type having the letters reversed, so that names, titles, or numbers can be printed upon the negative in opaque ink and appear on the positive as white letters.

Among the other exhibits are a new actinometer for platinum-type and carbon printing, by Mr. A. Spurge; a new tripod head arranged for the convenience of cyclists, by Mr. G. E. Varden

a case of photographic lenses, exhibited by Messrs. J. Swift and Sons; and some negatives on F. Gaedike's new rapid collodion dry plates, with positive prints taken from them.

Apparatus.

MESSRS. J. H. SKINNER AND CO.'S PHOTOGRAPHIC APPARATUS.

For some time Messrs. Skinner's goods have been gaining ground; this cannot be wondered at, for we find upon close examination of four "types" of cameras, that they are all of most excellent design, material, workmanship, and finish. Ostensibly we believe the firm are wholesale timber merchants, and have in the ordinary course of their business been large buyers of mahogany and hard woods. The opportunity of being able to get the very best wood upon the very best

terms was not to be lost sight of, and the firm seriously took up the question of camera-making. Having secured the services of

competent London workmen, and supplemented them with skilled local labour, which at East Dereham is to be had for very moderate wages, they put down the very best machinery for sawing, cutting, shaping, etc., and have now, we understand, a first-class factory fitted up with all modern machinery, and in which when in full swing some hundred or more men are employed. In order to be independent of outside help, the firm make all their brass fittings, bellows, etc., and we are quite satisfied that the work of Messrs. Skinner and Co. will hold its own with that of any accredited maker.

We have before us several cameras, and will give a short

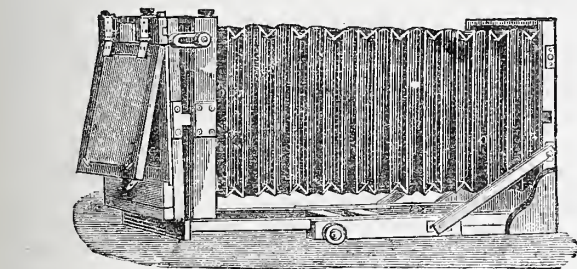


FIG. 1.

description. The "Square Camera," of which we give an illustration (fig. 1.), is of short focus, fitted with swing-back and the patent cycle focuser (fig. 2). This attachment, which is patented, has before been referred to in the columns of the AMATEUR PHOTOGRAPHER, and entirely dispenses with the rack and pinion. The camera is worked by two wheels toothed in the edge to fit the rack, and when the correct focus is obtained, an ingenious bolt is slipped, which locks the camera, and prevents any movement.

Another good camera is the "Tourist" (fig. 3) long-focus

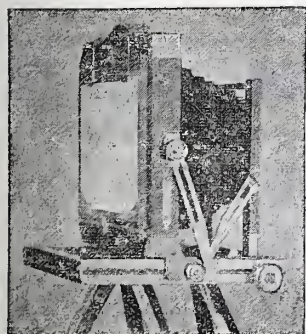


FIG. 4.

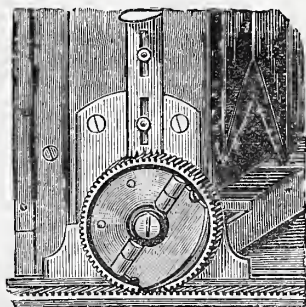


FIG. 2.

double-extension square camera, which can be used in the field or study. This camera will be found useful for copying, and, in fact, all work; it is fitted with swing-back, rising and falling front, reversing back, and locking arrangement for dark slides. This is a very first class camera.

Another, the "Wide-angle Camera" (figs. 4 and 5), long focus, front and back extension, is of most excellent workmanship, fitted with conical bellows, rising and falling fronts, swing-back; it has several movements, and is fitted with patent turntable (fig. 6). This camera is light, compact, and will compare favourably with any in the London market. It is sold with three double backs, half-plate, £7 10s., whole plate £9 15s. This price does not include turntable and tripod, which are £2 extra.

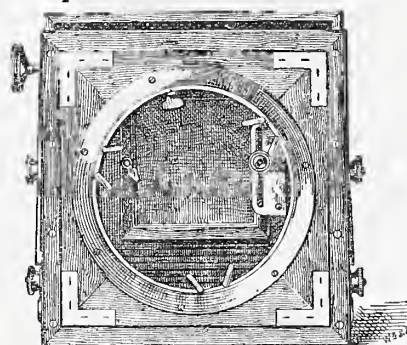


FIG. 6.

no hesitation in recommending it to the serious consideration of those who cannot afford to pay a big price.

Messrs. Skinner and Co. have several other cameras, but the foregoing will be sufficient to show variety.

They make a very ingenious dark-slide (fig. 8 and 9), which is of the solid form, the two shutters drawing out in the usual manner but the plates being put in from the bottom of the slide and secured by a catch or spring. These slides, finished in the best mahogany, half-plate size, are sold at 15s. each.

The new "Cycle" focuser (fig. 2) we have already mentioned. We have now only to mention the "turntable" (fig. 6). This is made in a solid ring of metal which revolves between two flanges, which are screwed to the base of the camera; the table is fixed in position by the turning of a small thumb-screw, which has the desired effect of making the table perfectly rigid.

Messrs. Skinner and Co. have an excellent tripod, three-fold,



Slide with Carrier partly drawn.

FIG. 8.



Carrier with one Plate partly drawn.

FIG. 9.

with sliding bottom leg, which stands well and upon which the camera is perfectly firm.

It only remains for us to say that with such goods as are now before us, Messrs. Skinner and Co. are certain to do a large business, and we can with every confidence advise our subscribers to place orders with them.

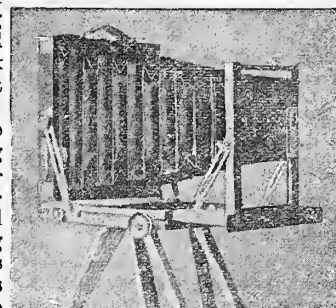


FIG. 5.

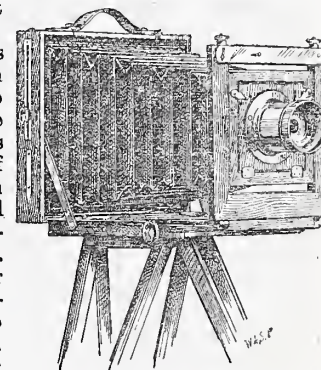


FIG. 7.

Societies' Meetings.

Birmingham.—At the meeting on the 24th ult. Mr. W. J. Harrison, F.G.S., in the chair, after the usual formal business had been disposed of, questions asked and answered, and gentlemen nominated for membership, the Hon. Secretary announced that the Editor of the AMATEUR PHOTOGRAPHER had kindly consented to send prize slides for exhibition on the members' night, March 23rd, 1892. Mr. H. S. Fry, of London, gave an interesting demonstration on "Lantern Slide Making." He compared gelatine with collodion, and in course of his remarks stated that generally more detail was obtained with gelatine, for collodion frequently tended to hardness. With gelatine various tones could easily be produced by increasing the exposure and the strength of the restrainer in the developer. Reviewing the various developers, he considered hydroquinone by far the best for lantern plates. Mr. Fry then proceeded to make slides by reduction in the camera with aid of the oxy-hydrogen lantern, which was manipulated by Mr. Jaques, and so good a light was procured that one minute exposure was found sufficient to produce a fully-exposed slide. Afterwards two other plates were exposed under same conditions for seven minutes each, and by altering the proportions of the developer, slides of various tones were made. These were shown on the screen, and also some of Norway, Switzerland, etc., and were much appreciated. The programme for next session includes six lantern nights, when slides of Japan, Burma, and Norway will be shown by Mr. J. B. Stone, J.P., President, Mr. A. W. Wills J.P., and Mr. E. H. Jaques, illustrative of their travels.

Bournemouth.—On the 26th ult. about a dozen members had a photographic excursion to Wimborne, where some very fair negatives were secured. By kind permission of Lord Wimborne, the party were able to take photographs in the grounds of Canford Manor. Other scenes in the neighbourhood were also photographed, not forgetting the picturesque model village of Canford, which charming little place induced some of the party to go on and secure views of it for themselves.

Faversham.—The members of this Society held their usual monthly meeting on the 15th ult. at the Institute. In the unavoidable absence of Mr. C. Cremer, who had been previously announced to read a paper entitled "Indoor Work," Dr. C. J. Evers (Vice-President) made some interesting experiments in the development of plates taken by the "Omnigraph," a new hand-camera by Lancaster and Sons, Birmingham. Specimens of photographs taken at Dover on the last excursion were produced for criticism, and a selection made for the Society's album.

Leeds.—On the 21st ult. Mr. G. H. Rodwell gave the sixth of the series of elementary lectures, his subject being "Lantern-Slide and Transparency Making." Mr. Rodwell stated at the outset that the increased popularity of the optical lantern as a means of instruction and amusement may be accounted for by the fact that the modern dry-plate gives to the amateur facilities for making lantern slides not possessed some few years ago. For lantern-slide work the wet collodion process was by many considered the finest. For fineness of deposit and transparency in the deepest shadows it was hard to beat, but this could only be said when in the hands of experienced workers; with the average amateur the extraordinary care necessary rendered it a difficult process to work. Fogs, comets, spots, pinholes, and oyster-shell markings were technical names for some of the troubles which an ordinary worker of this process would have to encounter and which would utterly spoil a plate for lantern purposes. The gelatino-bromide process was much more suitable, and with ordinary care exceedingly fine results could be obtained. Mr. Rodwell advocated a slow plate on which to make transparencies, and as a rule the slower the plate the warmer would be the tone of the resulting slide. Most commercial plates he considered too rapid; the plates he used were of his own preparation. Having explained the method of printing by contact, and also by reduction in the camera, Mr. Rodwell dealt with the various methods of development, and explained his method of obtaining warm tones; for this purpose pyrogallol acid development was the best, and the following was his formula: Liq. amm. fort., 1 dr.; amm. bromide, 1 dr.; water, 20 oz. For developing add one grain of dry pyrogallol acid to one ounce of the above just before using. He did not advise any alteration in the developer, but rather alter the exposure to suit the developers. Should the slide not be of the required tone or density, it was almost useless to try and alter it, and it was far better to make another slide. Intensification was also unsatisfactory; it was, however, possible to reduce an over-dense slide by means of Howard Farmer's ferricyanide formula, and this was specially useful in clearing skies by local reduction, using a camel-hair brush to wash the reducer over the sky. At the conclusion of his remarks, Mr. Rodwell exhibited a number of fine slides, which were put through the lantern and greatly admired by those present.

North Middlesex.—At the meeting on the 28th ult., Mr. C. Beadle

in the chair, Mr. Zimer and his assistants of the Americo-European Trading Company, demonstrated the process of reproducing photographs in printing ink by means of the "Photo-Autocopyist." In working the process it is necessary first to take a print from a negative upon a sheet of vegetable parchment coated with gelatine and sensitised with ammonia bichromate. The image is visible and can be examined as in the case of an ordinary paper print. When sufficiently printed, the bichromate is washed out, the sheet dried and stretched on the printing apparatus. It is then moistened with glycerine and ammonia, and inked with a greasy ink of a suitable tint. The image is masked to keep the margin clear, and a piece of paper being laid on top, a print is taken in a copying press, and the latter portion of the process repeated as often as desired. The prepared sheet may be stored away and prints taken from it in the same or different colours at any future time. A number of prints were made and distributed among the members. The negative from which the sheet was prepared was shown, and it was seen that the prints did fair justice to it, and showed none of the loss of crispness frequently observed in collotype prints. They closely resembled prints by the Autotype process. A letter was then read from a member communicating a formula for rapid printing paper by the blue process which he had worked out. Prints were shown from dense and thin negatives, from which it appeared that the new paper was suitable for soft negatives. The formula was then made up, and paper coated with it for members to test. Prints on various home-sensitised papers, etc., were then passed round and criticised. Mr. J. C. S. Mummery was elected chairman for the meeting on October 12th, when Mr. Roland Whiting will address the society on the "Intensification and Reduction of Negatives," and demonstrate the various processes; visitors welcome.

Richmond.—At the meeting on the 25th ult. Mr. Davis presided, and the subject discussed was the eikonogen and hydroquinone developer. All present who had used the combined developer testified to its merits in case of snap-shots and under-exposed plates. Heavy rain spoilt the outing to Perivale on the 19th, only one member, whose enthusiasm nothing can damp, putting in an appearance.

Sheffield.—The first meeting of the winter session of the Camera Club was held on the 23rd ult., Mr. G. T. W. Newsholme in the chair, when a lecture was given by Dr. Manton on "Photogravure, and Photo-mechanical Processes practically Illustrated." The lecturer explained in a very able and instructive manner the different photo-mechanical processes, including Woodburytype, collotype, photo-zincography, etc., giving illustrations of the methods adopted for producing these, and showing the blocks as used for producing the pictures in such popular journals as the *Graphic*, *Black and White*, etc. A varied and extensive collection of pictures produced by different processes was on exhibition.

Stockton.—On the 26th ult. the members journeyed to Hutton Hall, the residence of Sir J. W. Pease, Bart., M.P., through whose kindness those who were fortunate enough to attend were allowed to wander unmolested through the extensive "glass-houses" and grounds. Dr. Stainthorpe acted as pioneer, and some very beautiful stereoscopic negatives were secured of rare flowers and fruit. All returned very well satisfied with the outing.

QUARTERLY EXAMINATIONS IN PHOTOGRAPHY.

QUESTIONS.

(For Questions 7, 8, and 9—latest day for Answers, Oct. 12th—see last week's issue.)

- 10.—What are the chemical changes which occur in the formation and use of the ferrous oxalate developer?
- 11.—Forward a print of a river scene, a village street scene, and an ordinary landscape.
- 12.—Describe the production of a grained block.

Latest Day for Answers, October 19th.

RULES.

1. Answers must be received on the date stated each week in the AMATEUR PHOTOGRAPHER.

2. All answers must be preceded by the question, and should be written on one side of the paper only, and each answer must be on a separate sheet or sheets.

3. A *nom de plume* may be used, and must follow every answer, and be affixed to every specimen of practical work.

4. Answers are not limited in length, but preference will be given to concise answers without unnecessary amplification.

5. Those desirous of competing must apply to have their names entered. As these examinations are intended to encourage the study of the theory and practice of photography, authorities upon photographic matters and contributors to the photographic journals will not be allowed to compete.

NOTE.—No information of any kind will be given to competitors, and nothing but the answers must be included for the examiners. All other communications must be addressed to the Editor.

Marks will be given for all answers, and, when possible, the three best answers will be published. The answers will not be published till the week following receipt of the same, and the examiners will criticise each answer sent in, and when no satisfactory answer is received, will supply one. Three prizes will be awarded at the end of each quarter. (Full syllabus on application.)

All communications to be addressed to:—"EXAMINATION DEPARTMENT," AMATEUR PHOTOGRAPHER, 1, CREED LANE, LONDON, E.C.

To Correspondents.

All communications for these columns are to be addressed to **The Editor, "Amateur Photographer," 1, Creed Lane, Ludgate Hill, London, E.C.**

RULES.

1. Write clearly and distinctly on one side of the paper only.
2. Write each Query or Answer on a separate sheet of paper.
3. Write the name and address legibly on the back of each communication, and sign all Queries and Answers with name or *nom de plume*.
4. All matters for these columns **MUST** be received by **TUESDAY MORNING'S POST**.
5. The Editor does not undertake to answer questions by post.
6. In answering Queries, correspondents are requested to mention, in every instance, the *number and full title of the query* referred to.

QUERIES.

5083. Hand Camera.—I possess one of Marion's first-class metal cameras for lantern slides, with a Voightlander Enryscope lens. Most readers know this camera is conical in shape, with a barrel in front holding the lens. What I wish to do is to make it into a hand-camera. Can anyone suggest a good plan, or can they tell me of a good hand-camera that is sold without lens or shutter, very portable, to go into the pocket? Nearly all the makes of hand-cameras are solid boxes. This camera (Marion's) will go into an ordinary coat pocket. The lens is such a splendid instrument I should like to utilise it in another camera, or even the same, as for ordinary work it cannot be surpassed. It was never intended for snap-shot work, although it possesses all these qualities, except unless you have it previously fixed up. The scene has passed away before you have focussed, and put in the dark slide, drawn the same, and then made the exposure. Can anyone help me in the foregoing, or suggest an inexpensive camera that is ready at a moment's notice, sold without lens or shutter?—S. E. K.

5084. Toning Bath.—Which is the best for a beginner to tone with, acetate of soda or borax?—NEVILLE.

5085. Enlarging Camera.—Would A. J. Smith oblige by stating how far bromide paper needs to be from the lens?—ECONOMY.

5086. Lantern Slide Camera.—Would anyone kindly tell me of a lantern-slide camera for making slides from quarter-plate negatives?—LUX.

5087. One-Solution Developer.—I should like to know a good one-solution hydroquinone formula, or would No. 1 and No. 2 of Thomas's formulæ mixed keep a fair length of time?—LUX.

5088. India.—Will someone who has been in the Madras Presidency lately, kindly inform me whether Ilford or Thomas plates and films can be purchased in Madras, and at what cost over English prices?—MAJOR.

5089. Lantern Microscope.—I have a good lantern and a good microscope. Can any reader tell me how to combine them so as to project micro-slides on the screen?—ECONOMY.

5090. Hand Camera.—I carry a Talmer on a Safety bicycle, and should much like to know how "Ligis" carries his camera, and how he prevents the plates jumping up, and thereby causing a rattling noise. I want to overcome the difficulty. Perhaps he would kindly volunteer further information on the point.—RUETAMA.

5091. Platinum Toning, Clark's.—On page 25 of Mr. Clark's book, "Platinum Toning," the toning bath formula is given as follows:—

Stock solution A	...	1 fluid oz.
Water, up to	...	2 fluid drms.
Nitric acid	...	1 or 2 drops.

This represents 2 grains of platinum salt to the ounce. The formula for the same process, as given by Mr. Wall in his "Dictionary of Photography," is, however, as follows:—

Platinum salt	...	1 grain
Water, up to	...	2 oz.
Nitric acid	...	2 or 3 drops.

This only represents 1-16th part of the strength given by Mr. Clark. Will Mr. Clark kindly explain this difference, and what number of prints (half-plate) can be toned by each formula, and which of the two formulæ is the better one? Is it necessary, as with gold toning, to make up the platinum stock solution some time previous to use, or is it better to mix the toning solution as required?—VASCONGADA.

5092. Hand Camera.—In question 5012, *re* Facile, "Lewon" has touched a subject on which I want information, namely where to get a good hand-camera

without lens, the purchaser supplying the latter. I want to use an R.R. of 5½ in. back focus which I have. With the exception of but a few hand-cameras, the great drawback to the purchase of one is that one knows nothing of the make of the lens, the all-important part.—SEMPER BONUS.

5093. Toning Bath.—I commenced making up a stock solution of the bicarb. soda and acetate bath as recommended by E. J. Wall in the "Dictionary of Photography," but omitted to neutralise the gold as directed before adding it to the bicarbonate, and did not use distilled water. On my adding the gold an effervescence began which continued about two hours, and a thick chrome yellow precipitate has now appeared. The direction says, "Keep till colourless," but although the mixture has been kept for thirty-six hours, it shows no signs of clearing. Will any reader be kind enough to tell me the cause and remedy if one exists?—A. H. J.

5094. Photographing the Interior of Churches.—I have tried over and over again to take the interior of churches, but have failed. I have used Wratten and Wainwright's "London" gelatine bromide dry plates. I have tried exposing at various times, but my negative has turned out perfectly dark, or else I have found the subject very distinctly shown on my negative, but when I printed it the windows of the church were perfectly white. Someone told me that unless I had a portrait camera I could never take interiors of buildings. Is this true?—ITALIANA.

5095. Exposure.—What should be the exposure with Griffiths' lantern-slide camera, reducing from whole-plate, with and without the ground glass? Also with his enlarging camera from quarter-plate to whole-plate?—BRETLAW.

5096. Fixing Aristotype Prints.—What strength should the hypo bath be for these, and how long should the prints be left in? I tone them with borax in the same way as silver prints.—BRETLAW.

5097. Thin Negatives.—Will anyone kindly tell me the best way to improve thin negatives? I have taken several lately, both landscapes, in which the skies print much too dark, and groups, in which the faces of the figures have the same fault. They are developed with dry pyro, and 10 per cent. solutions of sulphite of soda, bromide, and ammonia, and fixed in hyposulphite (4 oz. hypo to 20 oz. water). How can I proceed so as to improve the negatives?—SARAH.

5098. Paper.—Where can I procure Aristotype paper without having to wait 12 or 14 days; also what is the next best silver paper that would give results equal to Aristo?—CLONMEL.

5099. Ceylon.—I am leaving on the 26th of October for Ceylon, and should be glad if any reader could give me information (from personal experience, if possible) with reference to the facilities for the purchase of chemicals, etc., at Colombo, and the most suitable accessories to take out. Any hints valuable to an amateur would be most acceptable. Taking Wornald's exposure tables, what would be the relative exposures as compared with same in England? Should any amateur desire to communicate with me by letter, Editor has my address.—FAIR MILE.

5100. Litmus Paper.—Should the red litmus paper turn blue if the toning bath is in good working order?—I. C. R.

5101. Bromide Paper.—Could any reader answer the following questions: (1) In printing on bromide paper, is there any difference between one side of the paper and the other? If so, how can I tell the difference, as both look the same? (2) Would paper bought four months ago be still good, if carefully kept, and unopened? (3) Is 20 seconds long enough to expose the paper to an ordinary gas burner? I have tried bromide paper, putting the paper on negative just as in silver printing, but must have made some mistake, as, when placed in developer, nothing at all appears on the paper. The developer was made from the directions enclosed with the paper.—MANFIELD.

5102. Paper Negatives.—Will someone kindly give particulars of developing paper negatives (Morgan and Kidd's)? I have only used ordinary plates till now, but wish to try paper. Do they require longer exposure? Any information on the subject will oblige.—J. D. P.

5103. Enlarging.—In Lancaster's combination Multum-in-Parvo, how is the picture focussed on the bromide paper? In the plan described in the AMATEUR PHOTOGRAPHER, I understand how it is managed with the easel where it can be seen; but in the Multum-in-Parvo the bellows conceals all.—KROC.

5104. Stereoscopic Moon.—Can any reader inform me where to obtain a stereoscopic print or transparency of the moon, the image of same to be about 1½ in. diameter?—F. R. H.

5105. Fixing.—Is it necessary to fix the plates in sodium thiosulphate after intensification with bichloride of mercury?—GOBANG.

QUERIES UNANSWERED.

Sept. 25.—Nos. 5056, 5062, 5065, 5067, 5078, 5079, 5080, 5081.

ANSWERS.

5007. Film Negatives.—I place mine between leaves of a blank book leaving about twenty pages in front for an index. Have found elastic bands round the book an advantage.—F. H. J. R.

5031. Reducer.—You cannot possibly reduce the exposure given to a negative, or its effects, after you have exposed it. You can reduce its density, but over-exposed negatives generally want intensifying. To reduce a negative, make up a fixing bath of the ordinary strength and add a few drops of a saturated solution of potassium ferri-cyanide (deadly poison); immerse the plate in this until required reduction has taken place.—PEN.

5035. Photography in Cemetery.—There is no public right to photograph in a cemetery. The keepers were perfectly right in stopping you.—OSIRIS.

5037. Printers.—If "Maggot" requires merely directions how to obtain prints, he had better consult Wall's "Dictionary of Photography," which will also tell him how to enlarge or make the emulsion.—OSIRIS.

5038. Chloride of Gold.—In answer to "Experimenter," I enclose a method of making chloride of gold I saw the other day. After having bent a half-sovereign put it in a bottle which will stand some heat and place it in a basin half filled with sand, then mix in a measure 1 drm. of nitric acid and 5 drms. of hydrochloric acid and add about 3 drms. of this mixture to the gold in the bottle. Place the whole on the hob by a fire and let remain for an hour, gently shaking the bottle occasionally, when the greater portion of the gold will be dissolved. Now pour off the clear liquid into a 15 oz. bottle, and add a little more of the mixed acids to dissolve the remainder of the gold; then pour the whole into the 15 oz. bottle. A small lump or two of common whiting must now be added to the gold solution to neutralise it (which may be ascertained by means of litmus paper), and the whole made up to 15 ozs. with water. You will now have a solution of gold containing 8 gr. to the ounce, and equal to eight fifteen-grain tubes.—OLD 'UN.

5041. View-Finder, to make.—Get one of Adams' 1½ in. focus finder lenses in brass tube price 1s. 6d., and place a bit of looking glass opposite the lens at an angle of 45 deg., with a bit of ground glass on top. I made one in a little box and let it into the camera; it answers perfectly.—G. F. W.

5042. Broken Negative.—It will be impossible to print without showing the crack. Perhaps the best way will be to suspend the printing frame by four strings and hang it up so that it will rotate, by twisting and untwisting the cords; it will then print showing the crack as little as possible.—LEGIS.

5045. Toning Solution.—It is impossible to prevent the gold precipitating in the alkali-toning bath made as described. Gold will only keep in solution in an acid solution.—OSIRIS.

5046. Hand Camera.—The best practical camera I have seen up to now for the bicycle is a new one, being made by Roberts, of Leytonstone, E.—J. H.

5046. Hand-Camera.—I rode forty miles on a safety with a Talmer slung over my shoulder, and got some splendid negatives. You cannot carry a camera any other way, unless you have a special carrier, as the jarring of the machine, if it did not injure the camera, would shake up the dust and cause pinholes.—G. F. W.

5049. Enlarging.—"Krog" can, if he has a printing frame, make an enlargement on to a plate; if not, he can enlarge direct on to paper.—W. H. ELLIS.

5049. Enlarging.—The usual way of enlarging is to enlarge direct from the small negative, but if you want to print copies on ordinary silver paper, you may make an enlarged negative from a small glass positive. You can enlarge by daylight, but do not get the sun on the negative.—PONTON.

5050. Developer.—Development will be retarded considerably, and as bromide has a rather different effect when used with hydroquinone to when used with pyro, I should advise you to put your solution into a larger bottle, and add the same quantity of hydroquinone and water. Then the bromide will be in right proportion. Otherwise you would probably get too great density, having to use a great quantity of alkali to force development.—PEN.

5051. Exposure Meter, to Use.—"K. M. W." had better get the full printed instructions from the makers, Field and Co., Suffolk Street, Birmingham, who would also send a refill of paper for 7 stamps.—A. WATKINS.

5052. Retouching.—In reply to "E. I. B.," the best pencils to use are either Hardmuth's or Faber's, Nos. 3 or 4; the colour Prussian blue; and the best brush is, I think, sable; also a little sandpaper, No. 0.—W. H. ELLIS.

5053. Double Photography.—If "W. R. S." will use a dead black cloth or something similar, he will, no doubt, be able to take himself in as many positions on one plate as he likes by capping the lens between each movement. This can be easily managed by pneumatic shutter or a little ingenuity.—A. W. JAM.S.

5053. Double Photography.—Use a black background. In the centre of the picture place a table with the chess board and men in position; then on one side of the table place a chair and arrange your subject as you think best. Expose the plate and note the time accurately. Now remove the chair to the other side of table, arrange your subject again, and give exactly the same exposure as before. Develop the plate in the usual way. Be very careful the table is not moved in the slightest.—A. W. ARTHURTON.

5054. Stereoscopic Club.—Do not know of any club for the exchange of stereoscopic prints, but shall be pleased to exchange a few with "Iconoclast II." If

mutually satisfied, the arrangement can be continued and extended to other stereo workers.—STEREOSCOPIC (address with Editor).

5055. **Celerotype.**—The gelatine may sometimes be prevented from pulling off the paper by using an alum bath before toning. A combined toning and fixing bath containing alum is the best and safest for gelatin-chloride papers which are disposed to frilling.—MONDS.

5057. **Bromide Enlargements.**—Very likely over-exposure and too weak a developer.—PEN.

5057. **Bromide Enlargements.**—The grey tint was probably due to over-exposure, but it might be caused by some ray of reflected light, or over-development, or using too little bromide in the developer. Keep the dish away from the "safe lamp" during development. On rapid bromide paper I have got a print by an exposure of one minute before the yellow glass of a candle lamp, and in five or six minutes before the ruby glass.—MONDS.

5058. **Toning Baths, to Keep.**—You may use a toning bath over and over again, until exhausted. A bath containing one grain of gold will tone twenty-four quarter or twelve half plate prints.—PONTO.

5058. **Toning Bath Keeping.**—All the toning baths "Silver Print" mentions in his query will keep a short time, and may be used several times, but not so many times as the ordinary chloride of gold baths. There are a great number of toning baths, but I think, if you read my answer to query No. 4990 in the AMATEUR PHOTOGRAPHER of Sept. 11th, 1891, you will find all you want.—W. H. ELLIS.

5059. **Washing Prints.**—There is no need to soak prints all night. Soak for ten minutes, change the water, and repeat for three hours, when they will be thoroughly washed.—PONTO.

5059. **Washing Prints.**—"Beginner" has managed very well under his conditions. The only fault to be found is that he ought to keep the prints in the fresh water (running water, if possible) for 24 hours, not 12. If he does this he will be all right.—W. H. ELLIS.

5060. **Enlarging.**—Get Wall's "Dictionary of Photography," 3s. 6d.—PEN.

5060. **Enlarging.**—In reply to "Gobang," I will here give you as full particulars on the subject as I can. It is a hint of how I enlarged with my half-plate Lancaster's camera by daylight only, and very seldom had a bad result, viz.: Get a decent sized box, one about 4 in. longer than the camera itself when extended its full length; the height or depth of the box will have to be left with you according to the height of the camera when standing on a table without its legs affixed, and have the box 1 in. higher or deeper than the camera. For instance, say the camera when extended its full length is 2 ft. 6 in. long and when standing on a table without its legs is 9 in. high, the size of your box ought to be 2 ft. 10 in. long and 10 in. high or deep both sides and ends. When you are sure you have a good box, stand the camera (with lens) in the box, and mark with a pencil the exact size of the lens (not the cap) on one of the ends of the box. After making this perfect, remove the camera from the box, and make a hole the exact size of the ring which you made with a pencil, then again put your camera in the box and push the lens as far through the hole which you have just made as possible. The back of the camera: Get a piece of white paper and place it at an angle of 15 degs. with the back of the camera, so that it will reflect light on to the negative when enlarging. When you have carried out the foregoing instructions correctly, the next thing required will be a dark-room in which you wish to enlarge. If you have not a dark-room, it can be easily made as follows: Put down the window-blind and hang from the top of the window a dark cloth large enough to cover the whole of the window and thick enough to stop all light from coming in; then lift up this cloth and open the window, and put the box with camera complete (and a dark slide with both shutters up, and the negative from which you wish to enlarge, film facing the lens upside down) half way out of the window, then shut down window so that no light is to be seen in the room except through the lens when the cap is off. If you are so fortunate as to get your lens so far through the hole as will allow you space for your cap, do so, but if not, get a piece of cardboard about 4 in. square and cover it with some dark cloth and fix it 2 in. above the lens on the box, and fix one or two pieces of lead so as the flap will, when let down, remain so. When you are so far complete, get a piece of white paper measuring about 12 in. square, fix this to an easel, then lift the flap and focus according to the size you wish to enlarge up to, remembering, at the same time, the larger size to enlarge up to the more expensive it will be in everything. I find the rapid bromide paper the best paper, and Lockyer's hydroquinone developer the best developer; the exposure all depends upon the light, the density of the negative, and subject. As a rule, bromide paper takes about ten to fifteen minutes' exposure (slow), but the rapid only requires three to eight minutes, according to the light, etc. It will not cost you more than 2s. to make the enlarging apparatus. I hope you will give this a try and be able to obtain good enlargements after, of course, a little practice.—W. H. ELLIS.

5061. **Lantern Slides.**—See my answer to 5010, last week.—PEN.

5061. **Lantern Slides.**—The only way to make lantern slides from large negatives is to reduce in a camera. Griffiths' fixed lantern-slide-making camera or Lancaster's Multum-in-Parvo will do it.—PONTO.

5063. **Combined Toning Bath.**—There is no simple combined toning and fixing bath. The bath for Ilford Alpha paper does very well for print-out gelatin-chloride papers.—MONDS.

5064. **Copies of Glass Positive.**—The only way to copy your photograph on glass is to make a negative in the camera, and print from that.—PONTO.

5066. **Hardcastle's Platinum Paper.**—In answer to "Sensitized," my experience is that with Hardcastle's and Pizzighelli paper I have only got a dull grey tone, but, using the hot bath with the special developing salts, I have got far finer results and blacker tones, and I also find it very much cheaper in the end. I do not deny that splendid results can be obtained with either of the above makes in the hands of a more experienced amateur, but my advice to a novice, as I was, is to use the hot-bath process.—SURRENTO.

5068. **Brown Tone on Bromide Paper.**—Fine brown tones may be obtained by proceeding as follows after fixing:—

Potassium ferricyanide	100 gr.
Water	24 oz.

Uranium nitrate	100 gr.
Water	24 oz.

These solutions will keep separately, but must be mixed only for immediate use. Take equal parts of A and B and immerse the print therein until it begins to turn. Then immerse in a weak solution of common alum, wash thoroughly, and then immerse for five minutes in a fresh fixing bath:—

Hyposulphite soda	3 oz.
Water	16 "

Wash thoroughly. As this process intensifies the print, medium light prints give the best results.—BLISTER.

5069. **Drying Prints.**—Blot between clean blotting paper to remove excess of water. Then lay face downwards on a white cloth or blotting paper till dry.—PEN.

5069. **Drying Prints.**—In answer to this query, no coloured (or white) blotting paper will fade the prints if they are only blotted with it, but if they are kept between the blotter for some time it might. I blot the prints with the blotting paper, then place them in a book till I mount them.—W. H. ELLIS.

5070. **Toning Bath.**—"I. C. R." ought to have put 2 oz. of hyposulphite of soda and 20 oz. of water more to the fixing bath; it was far too strong as you used it.—W. H. ELLIS.

5070. **Toning Bath.**—13 oz. of hypo is far too strong (perhaps a misprint) for fixing prints. You only require 3 oz. of hypo to a pint of water. You should tone a little deeper than is required, as the fixing solution takes away a little of the tone.—BLISTER.

5071. **Toning Bath, to Mix.**—You will find it much better to mix the gold with the solution when making up; the other way is very risky.—W. H. ELLIS.

5071. **Toning Bath, to Mix.**—See my answer to No. 5058 this week. It is a bad plan to add gold whilst toning.—PEN.

5072. **Quantity.**—Pretty correct. Why not use a proper measure?—PEN.

5072. **Quantity.**—From what I can see of "I. C. R.'s" query, it seems to me he is trying to make up a toning bath in every way different to what he is told. If he does this, he cannot complain if he gets half-toned or badly toned prints. It is true that the teaspoonful is supposed to measure or be equal to 1 dr., but it is unsafe because the spoons vary very much in size. Graduated glass measures may be purchased for a few pence anywhere, and every person should have one in his possession. Why not stick to what you are told, and not do exactly the opposite? For the sake of 6d., for which you can get a glass graduated measure, you spoil one tube of gold, which cost 1s. 9d.—W. H. ELLIS.

5073. **To Make Toning Bath Alkaline.**—Yes.—PEN.

5073. **To Make Toning Bath Alkaline.**—To make a toning bath alkaline, add more of whatever salt is already in the bath.—PONTO.

5074. **Alum Bath.**—If your negatives "never fail" pray do not use alum. No one else is so fortunate, I fear.—PEN.

5074. **Alum Bath.**—The alum bath is not necessary, but it should always be used with pyro to remove stains. The chief use of it with hydro is to harden the film, thereby making it dry quicker.—PONTO.

5074. **Alum Bath.**—This is not indispensable for negatives. It is useful after certain developers, as ferrous oxalate and pyro ammonia; it is injurious after hydroquinone, if used before fixing and washing; it is unnecessary after eikonogen, if the acid fixing bath is used.—MONDS.

5075. **Omnigraph Changing Box.**—"A Novice" ought to find no difficulty if he carefully follows the printed instructions issued with the apparatus. If, however, he still finds that he requires assistance, I should recommend him to consult Lancaster's Kilburn agent, A. G. Lambie, 245, High Road, Kilburn, who is not only a skilled optician but a practical photographic worker. Mr. Lambie has, to my knowledge, been very successful personally with the Omnigraph, and he is always most pleased to give any help in his power, whether those requiring it are customers or not. I may add that the proper placing of the plates in the metal sheaths is a matter which requires great care to ensure the proper working of the instrument.—ARTHUR WATKINSON.

5076. **Facile Hand Camera.**—The lens alluded to by me in answer No. 5012 is that supplied by the dealer, with the Facile.—A. P. G. D.

5077. **Watkins' Exposure Meter.**—I am inclined to think the difficulty is more personal than general. I have come across a few people who seemed quite unable to test the light with the actinometer, especially when it was bright, probably on account of peculiarity of vision. Or it is possible that you are using old spilt paper. Get a friend to check your test of a bright light.—A. WATKINS.

5082. **Negative Washing.**—The reason the film comes off the plate in each case is because the plate was not washed sufficiently, with the result that there is a quantity of hypo left on the plate, and in a very short time it completely rots the film, and when touched with, as you state, come off very easily. Negatives which suffer from this complaint are not of the slightest use.—W. H. ELLIS.

EDITORIAL.

SPECIAL NOTICE.—We are very pleased to find that replies in this column are so much appreciated, but we should be very grateful if those requiring advice would send their letters to us before TUESDAY MORNING'S post if possible. The time occupied in replying in this column is very considerable, and owing to the often late receipt of letters, many matters have to be left over each week. This we much regret.—ED: AM: PHOT:

MAJOR MEARES.—Fallowfield's will supply such a mount as you describe, and so will Hannau and Co., Atlas Works, Gainsborough. Their mounts are made in England and are of most excellent quality. When photographic prints are "starred about" the mount is generally cut to order. They are not expensive, and such a sketch as that sent to us with the titles will be a sufficient guide to the makers.

TRAVELLER.—We are sorry to hear your complaint. What we have seen of the firm's work has been most satisfactory, but we cannot act as an intermediary. Your experience as a lawyer will be your best guide as to what to do, but we must say that your complaints appear to us of a very trivial nature.

S. A. WARBURTON.—Very many thanks. You will note that we use your information to urge on others.

F. W. PLEWS.—We have sent you our rules for loaning lantern slides.

V. DE MONTGOMERY.—Chiddington.

BLUE FOG.—Will criticise your photographs later on.

G. R. B.—We are much obliged, and note the correction that Dr. Mackenzie is principal of the "Royal Academy" and not the "London Academy," as stated by us. Hope to see you some Monday.

J. LAIRD.—It is very difficult to understand the paragraph. Should you hear more, perhaps you will kindly let us know.

W. H. B.—Your letter shall receive attention at the end of the month with others asking for similar information.

EDWARD CLARKE (Smymna).—You will note we publish your invitation to our friends, and thank you for their behalf and on our.

ISAAC WILLIAMS.—Procure a list of chemicals and prices from any respectable dealer in photographic material. We have no time to look up prices of chemicals, etc. About the remedy for pinholes and round bare spots on . . . and other dry plates, we can only advise you to bring the plates to us any Monday afternoon and we will try and help you.

W. HACKETT.—You had better advertise the lot in our Sale and Exchange column; no doubt you will get a customer.

W. T. BARTON.—We have never seen the London Stereoscopic Company's Compactum magazine hand-camera. Their Artist hand-camera is one of the best in the market. Certainly use Paget xxxxx, with it for instantaneous work, or xxx. for time exposures.

LOLA.—You do not definitely state when the peculiar defect made itself visible; if it appeared immediately on fixing, it is probably due to the makers heating the drying room too much; if not for some time after washing, it must be ascribed to the action of the caustic alkali followed up by the continued action of water during the hot weather.

W. B. H.—Place the prints in water and change very quickly for about ten minutes, and then place in the toning bath, and when the desired tone is reached place in salt and water, then fix in alkaline hypo, well wash for an hour, then place in an alkaline chrome alum solution, then again wash for an hour. The best plan is to use the alkaline chrome alum solution first, placing the prints direct into this from the printing frame, then washing well and toning. Your stains, we should say, are due to sulphuration caused by the use of ordinary alum after fixing, that is presuming you use the directions you state.

H. M. S.—(1) Where are the top and ends of the bridge? This is bad. (2) Good. (3) Good. (4) Cut half an inch off foreground. (5) Too pale, flat, and poor. (6) Your foreground is weak; an old boat, a broken basket, anything would have broken it up and improved it. (7) Good. (8) Never cut the ends off a bridge; it gives one an idea of instability. (9) Good. Try 2, 3, 5, 7, and 8 in bromide and send up to our competitions. The Ilford rapid bromide paper is one-fourth as rapid as their ordinary plates, the slow paper one-twentieth as rapid as the rapid bromide paper. If the plates require three minutes, the rapid paper will

require twelve minutes, the slow paper 240 minutes. Thomas's extra-rapid plates are suitable for use with a Swinden and Barp, and can be obtained backed from Whittingham and Co., 43, Charterhouse Square, London, E.C.

RUTAMA.—The camera you name is cheap and good, and the only drawback is that it possesses no screw or rack and pinion. We have one and have fitted a winch and screw to it at a cost of 15s., and it works perfectly, and we use it not only for enlarging, but for copying full size, testing lenses, etc. We cannot do more than indicate the leading points, thus—make a rather thin full-of-detail positive by contact printing from your snap-shot negatives, touch out all defects, and enlarge from this on to a slow lantern plate and develop with pyro.

W. W. H.—Use the portrait lens, which is the most suitable, stopping down if necessary. A condenser is not absolutely essential; it is, as you say, merely a matter of time, and equally good results can be obtained with an ordinary lamp.

N. M. H.—We can only say that as a rule a matt-surface gives far more artistic results. Whether a gloss would prejudice the prints depends a great deal upon the personal opinion of the judges, who, of course, are totally independent of any opinion we hold.

LEO.—(1) The face of this wants working up on the back of the negative with a stump and blacklead on matt-varnish so as to soften it down a little. (2) This is spoilt by the unequal toning. (3) Good.

E. S. RUEZ.—May we strip the film? Send a post-card to that effect or not, and we will then write you privately. Send full address.

F. C. GIBBONS.—(1) Over-exposed; print under one or two thicknesses of tissue paper slowly; the print is just wanting in brilliancy. (2) There is a want of sharpness about this which is displeasing. (3) Very fair. (4) Flat. (5) In this there is also fuzziness which spoils an otherwise good picture. (6) Fair. (7) Good. (8) Spoilt by the figures on bridge and bank. (9) Good. (10) Too much pyro used in developing, the whites are far too white. (11) Same fault in this, which is otherwise a very good thing. Little Red Riding Hood, the girl knitting, and the one with glasses and saucer ought to make splendid models. Try especially little Red Riding Hood, with her hair as in print, in a wood, and you ought to make a prize picture of it, only give her the traditional basket of fruit and wine and cakes, etc. We should like to see a good print of 11 on bromide, and it would be quite equal to competition standard. All your work so far as technique goes is good, but it wants in artistic qualities.

J. E. O.—(1) Good technically, but no artistic qualities. (2) If you had but waited or got a little further off so as to have included all the cows, your would have had a perfect picture. (3) Same fault. (4) Poor. (5) Cut an inch off foreground. (6) Good. (7) Fair. (8) Printed too deep. (9) Far too much of the blank walls in this. Hardly up to standard artistically; let us see some others; all are good technically.

NEMO.—We are almost in as bad a plight as you. Have you tried Rowney's, Newton, and other artists' dealers? If not, we will inquire for you.

W. G. G.—Unless you are using a very low alloy of gold you can disregard the copper altogether, as it has even been recommended as giving finer tones. If you want to get rid of it, neutralise your solution of gold and copper with carbonate of soda or chalk, and filter out the carbonate of copper, and make the solution of gold acid again with hydrochloric acid.

F. R. HUNSLITT.—Your best plan would be to apply to Chadwick, 2, St. Mary Street, Manchester. He is the most likely man to know. We also insert as query.

H. D. BERKELEY.—The tone you have obtained is certainly very pleasing, though we should prefer a matt-surface. The technical work speaks well for your carefulness after only six months' work.

T. F. BELL.—(1) The amount of ferridecyanide determines the rate of reduction only, and has no influence on the gradation. (2) The only way to reduce the dense portions of a very hard negative without reducing the shadows is to wash free from hypo, and then immerse in—

Hydrochloric acid (pure) .. 9 drops.
Bichromate of potash .. 30 grains.
Alum .. 10 ..
Water .. 1 oz.

till thoroughly bleached, then wash well for an hour or more, and re-develop with a weak and well-restrained ferrous-oxalate developer, and stop the development as soon as the shadows have developed, and before the high lights are reduced right through, then refix. (3) Matt-surface chloride paper will give good results with any bath in use for ordinary paper. (4) The paper can be obtained in white mauve or pink.

W. E. CROWTHER.—Ferro-prussiate paper requires washing simply after printing; Hardcastle's and Pizzighelli platinum paper, washing in very dilute hydrochloric acid.

G. F. WETHEMAN.—No. 6 is a picture, but would look better if printed on a matt-surface gelatin chloride paper. We should like a copy. No. 5 is a good instantaneous shot, well-timed and effective. No. 7 is good. No. 1 is good, but might be improved in the printing. No. 4 admirable. No. 3 over-exposed. No. 2 not good at all; the subject is too large for the plate, and conveys no idea to the mind, and is also over-exposed.

J. T. HYNES.—You do not appear to focus your pictures accurately, and most of them want printing

more deeply. No. 1 would have been better with less foreground and less sky. No. 2 is spoilt by the figure. No. 3 over-exposed or slightly under-developed. No. 4 and 5 badly focussed. No. 6 better, but wants printing more deeply.

MAILLIAR.—Dissolve the eikonogen in boiling water, using as little water as possible, add some strong hydrochloric acid till no further precipitate is formed, filter, wash the filter paper once or twice with water, and then pour over it some distilled water in which some caustic soda has been dissolved.

G. S.—The prints are mealy, which may be due to using the toning bath too soon after mixing or to not washing the prints sufficiently before toning. Please let us know your exact method of procedure, and if you have any of the paper or prints still untuned send some up and we will try it.

C. STEWART.—The ferrotype plates can be had from Fall'owfield, Charing Cross Road, W.C.

ANXIOUS.—All the plates are well exposed, developed right, but the prints are not printed deep enough. The posing of the figures is far too stiff, and they persistently stare into the lens; try and avoid this, and let us see some more work presently.

A. RUSSELL.—We do not understand what you mean by the silver sticking on the sensitized surface. Write more fully and send up a piece of paper showing the defect.

Monthly Competition.

FIFTH MONTHLY LANTERN SLIDE COMPETITION.

We have received slides from the following:—

J. Pearson...	...	Manchester
F. Smedley...	...	Manchester
J. A. Owen...	...	Aldershot
G. T. White...	...	Manchester
J. Graham...	...	Greenock
W. Marsland...	...	Ashton-under-Lyne
J. Kirkwood...	...	Tynemouth
W. E. Galloway...	...	Gateshead
H. Thompson...	...	Harrogate
T. H. Faulks...	...	Cardiff
S. Woolley...	...	Ashton-under-Lyne
C. R. H. Piekard...	...	Leeds
H. C. Bentley...	...	Louth
F. J. Hatchman...	...	Kingston
W. H. Moseley...	...	Trowbridge
F. Emsley...	...	Leeds
W. S. Crowther...	...	Pudsey
H. Nye...	...	London
T. Gilbert...	...	Putney
H. W. Bloomfield...	...	London
A. P. G. Dowdall...	...	Exeter
J. Brown...	...	Gosforth
E. Myers...	...	Keighley
L. Gay...	...	London
Mr. and Mrs. Ellis...	...	Crouch End
W. H. Bailey...	...	Cookham
Rev. G. F. Sharland...	...	Thurlow
Prof. J. O. Arnold...	...	Sheffield
T. A. Cunningham...	...	Greenock
G. H. Westlake...	...	Sheffield
C. L. Marriott...	...	Boole
D. Cameron...	...	Glasgow
W. S. Andrews...	...	Boness, N.B.
H. Shimwell...	...	Birmingham
S. L. Coulthurst...	...	Manchester
J. W. Morgan...	...	Tunbridge Wells
J. A. Pollock...	...	Belfast
G. Austin...	...	Anerley
F. W. Plews...	...	Leeds
A. H. Webbing...	...	Brighton
P. Sheard...	...	Birstall
H. Harris...	...	Hayward's Heath
S. J. Bradburn...	...	Manchester
Rev. H. J. Sibthorp...	...	Northampton
T. H. Taylor...	...	Paistey
W. J. Parthing...	...	Chirk, N. Wales
G. W. Hildyard...	...	Hull
Dr. R. Atkins...	...	Waterford
G. J. Boville...	...	Hull
T. Clarke...	...	Witley, Surrey
R. G. L. Markham...	...	Devonport
Dr. W. W. Stainthorpe...	...	Salisbury-by-the-Sea
H. S. Wise...	...	Lustleigh
J. E. Kellow...	...	S. Hampstead
H. N. Cooper...	...	Stockport
Dr. Dalton...	...	Wantage
M. H. Hudson...	...	London
G. Lord...	...	Salford
W. Hall...	...	Tynemouth
H. H. Hammond...	...	Southsea

Sale and Exchange.

COMMISSION.—A charge of 2½ per cent. will be deducted from all deposits whether a sale is effected or not. Minimum charge 1s.

PAYMENT. All payments are to be by cheques or Postal Orders, made payable to **Hazell, Watson, and Viney, Ltd., 1, Creed Lane, London, E.C.**

Backgrounds.—Backgrounds for sale, high-class, large size; 25s. each; worth double. — 3, Waverhill Road, Handsworth, Staffs.

Burnisher, etc.—Burnisher, 6 in., Bunsen burner, 6s. 6d.; Adams' half-plate drop shutter, pneumatic release, fit any hood, 6s.; and as new. — Go-ling, 13, Lausanne Road, Hornsey, N.

Cameras, etc.—Lancaster's enlarging camera, 15 by 12, new; cost £2; price £1.—Herbert R. Spencer, Camera Club, Charing Cross Road, W.

Half-plate camera, three double slides; bargain.—S. Malby, Clarence Street, Nottingham.

7½ by 5 Acme camera, with turntable, six double dark-slides, two canvas cases, all by Watson and Sons, new and perfect condition; cost £15 10s.; price £10 10s. — B. J. Bernady Road, Lewisham, S.E.

Half-plate Tourist camera, folding tableboard, three double slides, folding stand, solid leather case (by Wratten and Wainwright), condition as new; £5; approval; deposit.—Lewis, Photographer, Reading.

Half-plate bellows camera, lantern slides, 10" White-washer, 10" Billy's Rose, 7" Lifeboat. Wanted, lantern or comic slides, or offers. — Lantern, Heyside, Royton.

Cameras, Lenses, etc.—Robinson's quarter-plate extension bellows camera, screw focussing, swing-hack, etc., three double black-pattern slides, 5 by 4 portrait lens, and folding ash tripod, cash 40s., or exchange half-plate or whole-plate lens, etc.; also Rouch's whole-plate portable extension leather-bellows camera and one double book slide, cost £6 3s., take £4, or exchange 9 by 7 or 10 by 8 good R.R.—G. A. Knight, Seaford, Sussex.

Hand-Cameras, etc.—For sale, splendid 5 by 4 hand-camera, only used few times (by Griffiths, Birmingham); cost £2 15s.; take £2; approval anywhere. — Frederick Sharpe, Church Street, Oakham.

Kodak, small size, cost 5 guineas, sell for 45s., or exchange for Eastman's quarter roller, dark-slide; also Kodak, No. 3 Junior, cost 8 12s. 6d., sell for £6 10s.—Pitcher, Photographer, Gloucester.

No. 5 folding Kodak, new, seals unbroken, 7 by 5 pictures, two spools films; advertiser prevented going abroad by illness; cost £13; price £10.—Butler, Hill-side, Elm Grove Road, Cotham, Bristol.

No. 1 Kodak, nearly new, solid leather case, cost 105s., also 2½ in. compound condensers; sell 25s. the lot, or offers.—Western, Ravensbourne, Shortlands.

Lantern.—Splendid biennial lantern, complete with front objectives, two safety jets, dissolver, curtain effect, etc., perfect instrument, suitable for club; £5; seen by appointment; no approval.—E. 7, Park Village West, N.W.

Lancaster's enlarging lantern, with 5 in. condensers, powerful lamp, etc., quite perfect; cost £3 3s.; will take £2 2s.—Mauchester Photographic Depot, 71, Oxford Street.

Lenses, etc.—Wray's half-plate wide-angle rectilinear lens, nearly new; cost £3; take 45s., or offers.—Address, NEMO, AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.

Dallmeyer's c.d.v. portrait lens, 5 in. focus; 40s.—Isaac, Lower Addiscombe Road, Croydon.

Lancaster's quarter-plate lens and See Saw shutter, as supplied with special Instantograph, new; 12s. 6d.—Pittkethly, Wilkie Place, Leith.

Sets.—Mayfield's lantern-size Pocket camera, umbrella stand, splendid R.R. lens with stops, f/8, instantaneous shutter, unapproached for taking cartes or small views, three dark-slides; what offers? Leather-covered detective camera, 12 carriers, lens, finder, etc., cost 31s. 6d. two months ago, offers; specimen from either, or approval; deposit.—Knott, 12, Hyde Vale, Greenwich.

Great bargain! 1891 half-plate Instantograph camera, slide, tripod, and rapid rectilinear lens, as new; only 67s. 6d.—John Slade, Slad Road, Stroud, Gloucester.

Capital half-plate Tourist's camera, nearly new, brass-bound, extra front extension, reversing frame, etc., three double slides and tripod, rapid rectilinear lens, iris diaphragm, working at f/6, and pneumatic drop shutter, in mahogany case; cost £9; exchange cushion tyre Safety bicycle.—J. Mendum, 17, Westgate Buildings, Bath.

For sale, splendid half-plate camera, all movements, splendid R.R. lens (by Newton, Liverpool), three double backs, tripod, all complete; cost about £9; take £4 10s.; approval and photograph sent.—Fredk. Sharpe, Church Street, Oakham.

Whole-plate Instantograph lens and shutter (Lancaster), iris stops, practically new, 30s.; whole-plate stiffened lock-up waterproof case, shoulder strap, used twice, 10s.—H. W., 18, Paulin Street, Bermondsey.

Shutter.—Underwood's Instantolux, 23 in.; cost £1; who will give 7s. 6d? no approval; call and see.—3, Edmund Place, Aldersgate Street, E.C.

Sundries.—What offers for five years' AMATEUR PHOTOGRAPHER, about six numbers missing; also "Photography," from No. 1 to present time, about six numbers missing?—J. Crowther, Dukinfield.

Lancaster's 1888 Instantograph quarter-plate, with six double metal dark-slides, excellent condition, 40s.; Kershaw instantaneous shutter to fit same, 10s.; vols. i. and iii. "Photographic Quarterly," 8s.; "Photographic Reporter," Nos 20 to 26, 3s. 6d.—C. Leicester, 161, Croxeted Road, Dulwich, S.E.

The Chain Iron distilling apparatus, 9s.; Newman's patent shutter, 18s. 6d.; Houghton's portable changing tent, £1; case for Shew's hand-camera, 12s.; all in good condition.—Pratt, East Bridgeford, Notts.

Five-string hanjo (by Turner), ivory keys, plated hoop, w. terproof case, instruction book, marches, etc.;

cost 80s.; sell 40s., or offers; or exchange 5½ in. compound condensers.—Western, Ravensbourne, Shortlands.
 Lens adapters; 1s. 6d., post free; send camera front and flange requiring adapting.—Patent, 37, Mount Park Crescent, Ealing.
 Dishes, porcelain, vulcanite, measures, cheap; list stamp.—George Howard, 55, Percival Street, London.

WANTED.

Background.—Plain opaque background, 8 by 6, on rollers, grey tint, whole plate printing frames, and Vergara dark-slides, cheap.—No. 203, AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.
Cameras, etc.—Quarter-plate camera, front extension, rack and pinion, one slide, no lens.—State maker

and lowest price to D., 97, Church Road, Richmond, Surrey.

7½ by 5 or half-plate camera, rising front, swing and reversing back, also case, most thoroughly good and cheap; full particulars.—Kroger, 3, Edmund Place, E.C.

Hand-Cameras, etc.—Second-hand Rouch's Eureka or Talmer hand-camera, cheap; approval; deposit.—W. Clare, Sydney House, Malvern, Wells.

Hand-camera, suitable for India, construction must be simple and price moderate.—Send full particulars to A. J. Maas, 23, Coventry Road, Ilford

Sundries—AMATEUR PHOTOGRAPHER, extra numbers, Summer, 1886; Winter, 1886; Jubilee, 1887.—G. M. W., Kilmeay, Hawick.

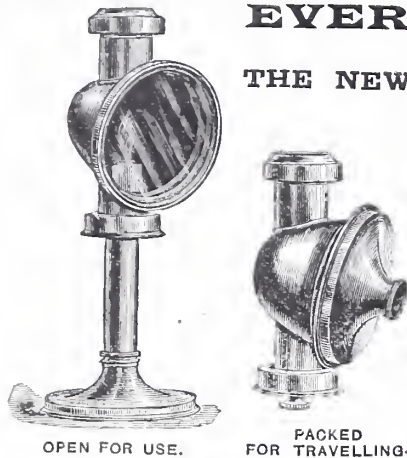
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 Postage per doz. 4½d. 6d. 6d. 7½d. 10½d.

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THE PHOTOGRAPHIC REPORTER

For October, 1891, Price 1s., now ready, contains:—

THE PALL MALL EXHIBITION—NOTABLE PHOTOGRAPHS.

EDITORIAL SUMMARY FOR THE MONTH—Notices on Apparatus and Novelties—Publications of the Month—Several Articles on Photographic Science and Art—Monthly Photographic Competition, "Enlargements"—All Photographs contributed criticised.

FRONTISPIECE:—An excellent Woodburytype (First Prize in "Enlargements" Competition):—"Look out for Squalls, Curracloe Sandhills," by THOMAS DRAPES, M.D.

ILLUSTRATIONS:

"After Many Storms" (whole page), by G. E. VARDEN.
 "Milton's Cottage," by W. R. WEIR.

"At Work," by R. W. BRANTHWAITE.

"South Devon Homards" (whole page), by L. W. TINDAL

HAZELL, WATSON, & VINEY, Ltd., 1, CREED LANE, LONDON, E.C.

The AMATEUR PHOTOGRAPHER

Telephone No. 1645
Telegraphic Address: VINEY, LONDON

Office: 1, Creed Lane, Ludgate Hill, London, E.C.

No. 366. Vol. XIV.]

FRIDAY, OCTOBER 9, 1891.

[PRICE TWOPENCE.]

OUR VIEWS.

"To hold as 'twere the mirror up to nature,"—Shakespeare.

OUR VIEWS.—The 1891 AMATEUR PHOTOGRAPHER Lantern Slides, Awards.—Hackney Photographic Exhibition.—Newcastle-on-Tyne Lantern-Slide Competition.—The Camera Club, One-man Exhibition, Ralph W. Robinson.—Photographic Society of Great Britain.—Our Illustration.—The Hand-Camera.—Amsterdam Photographic Exhibition.—Monthly Photographic Competition.—"Photographs of the Year"—Exhibition at Tunbridge Wells.—Demonstrations by the Fry Manufacturing Company.—The Glasgow Photographic Exhibition.

LEADERS.—The Photographic Society's Exhibition.—Beginners' Difficulties.

ILLUSTRATION.—The Horn Blower of Ripon, by Geo. F. Firth.

LETTERS TO THE EDITOR.—Development (John Power)—A False Actinometric Theory (Osiris)—Vitrified Photographs (Oeffelein and Co.)—Awards at the Photographic Society's Exhibition (Van der Weyde)—Platinotype Paper (Ernest J. Humphery)—German Customs and Dry Plates (J. R. Greatorex)—Disquieting Rumours (Long Ears).

ARTICLES.—Composition, and Light and Shade, illustrated (Robinson)—Application of Gaslight to Photography, Incandescent Gaslight Company, illustrated—Photographic Procedure, illustrated (Wall)—How I Started a Successful Society (A Provincial).

NOTES FROM THE LIVERPOOL CENTRE.

QUARTERLY EXAMINATIONS IN PHOTOGRAPHY.

APPARATUS.—Wormald's New Lantern Slide Photographing Frame—Wormald's Stereoscopic Masks—Park's Light Bamboo Stands—Coloured Lantern Slide Masks—Camera Cases.

EXHIBITIONS.—Amsterdam International Photographic Exhibition.

SOCIETIES' MEETINGS.—Bath—Birmingham—Cornwall—Croydon—Microscopical—Devon and Cornwall—Formby—Hackney—Holborn—Lewisham—Midland—Richmond—Rossendale—Tunbridge Wells—Tyneside.

Members of the Editing Staff are At Home" on Monday, afternoons from Two till Five o'clock, and they will gladly give advice upon all photographic matters.

THE 1891 AMATEUR PHOTOGRAPHER Annual Lantern-Slide Competition is, so far as excellence of work goes, quite equal to, if not in advance of the work sent in last year. The number of entries may be somewhat fewer, but we seek first-class work, and our competitors know that it is useless to send in lantern-slides unless they are of good average merit, and we have much pleasure in stating that there is not a single set of slides in the competition that is not sufficiently high in quality to be fit to show at any exhibition.

We were fortunate in securing as judges the services of Messrs. Valentine Blanchard, F. Mason Good, Frank Howard, and Charles Hussey, all gentlemen most fully qualified to make the awards in a competition of lantern-slides. These gentlemen met at two o'clock on Monday at our offices, examined all the slides by transmitted light, and classified them. When this was finished, an adjournment was made for dinner, and afterwards the slides were passed through the lantern, many sets several times, with the following result:—

CLASS I.—*Landscape, Sea Pieces, and River Scenery, with or without Figures.*

First Prize (Gold Medal).

SPENCER HENRY BARTON London, N.W.

Second Prize (Gold Medal).

ARTHUR R. DRESSER Bexley Heath.

Third Prize (Silver Medal).

EDGAR G. LEE Cullercoats.

Fourth Prize (Silver Medal).

EDWARD BRIGHTMAN Bristol.

In this class the judges found the slides of such high value that we at once consented to the giving of two Gold and two Silver Medals. Other slides which in their opinion took a high rank were those entered for competition by Messrs. S. Francis Clarke, A. H. C. Corder, Llewellyn Roberts, William Gladstone, and the Rev. C. G. Davis.

CLASS II.—*Portraiture and Figure Studies.*

First Prize (Gold Medal, "Niepce").

JOHN E. AUSTIN Maidstone.

Second Prize (Silver Medal).

MRS. S. FRANCIS CLARKE Louth.

EDITORIAL DEPARTMENT.—All Literary Contributions, Queries and Answers, Photographs for Competition or Criticism, Books or apparatus for Notice or Review are to be addressed to the EDITOR, AMATEUR PHOTOGRAPHER, 1, CREED LANE, LUDGATE HILL, LONDON, E.C. (All Communications should reach the Editor on Tuesday.)

TRADE ADVERTISEMENTS are received up to Tuesday morning.

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UNITED KINGDOM..... Six Months, 6s. 6d..... Twelve Months, 10s. 10d.

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OUT OF POSTAL UNION " 7s. 9d. " 15s. 6d.

PUBLISHING DEPARTMENT.—All letters containing Subscriptions, Orders, Remittances, SALE and EXCHANGE Advertisements, or other business matters for the AMATEUR PHOTOGRAPHER are to be addressed to the Publishers, HAZELL, WATSON, AND VINEY, LD., 1, CREED LANE, LUDGATE HILL, LONDON, E.C. (SALE and EXCHANGE Advertisements, at the charge of Three Words for One Penny, can be received as late as WEDNESDAY MORNING.)

"Amateur Photographer" Monthly Lantern Slide Competition, (Sixth)—"PORTRAITURE AND FIGURE STUDIES." Last day, OCTOBER 22ND.—Two Slides to be sent in. Entry Forms, etc., on receipt of stamped envelope. Address: Editor, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C.

Amateur Photographer" 1891 Stereoscopic Slide Competition, (Fifth Year).—Prizes: Gold, Silver, and Bronze Medals, and Certificates in each class. Competitors can only enter one class, and every competitor must contribute six slides.

CLASS I.—Landscape, Sea Pieces, and River Scenery, with or without figures.

CLASS II.—Architecture, Interior or Exterior.

CLASS III.—The Fine Arts, which may include Sculpture, Art Metal Work, China, Bric-a-Brac.

NOTE.—Past prize-winners will be awarded "Niepce," or progressive medals, should they win a medal of the same value as that which they have been awarded in past Stereoscopic Slide Competitions.

DATE.—All slides must be received on or before October 30th, 1891.

RULES, CONDITIONS, and ENTRY FORMS will be forwarded on receipt of stamped addressed envelope. The application should be endorsed, "STEREOSCOPIC SLIDE COMPETITION," Editor, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C.

"Amateur Photographer" Monthly Competition No. 29.—"INLAND SCENERY." Last day, NOVEMBER 2ND.—Prizes: Silver and Bronze Medals, with Ribbon and Clasps. One print only to be sent in. Entry forms, etc., on receipt of stamped envelope. Address: Editor, AMATEUR PHOTOGRAPHER, 1, Creed Lane, E.C.

Third Prize (Bronze Medal, "Niepce").

MAJOR J. D. LYSAGHT Cork.

Fourth Prize (Certificate).

EDWARD J. BEDFORD Lewes.

The only other slides in this class which received attention at the judges' hands were those contributed by Mr. A. D. Guthrie, of Leith.

CLASS III.—*Architecture, Interior or Exterior.*

First Prize (Gold Medal).

CYRIL S. COBB Surbiton.

Second Prize (Bronze Medal).

JAMES DAVENPORT Manchester.

Third Prize (Bronze Medal).

DR. RINGROSE ATKINS Waterford.

Fourth Prize (Certificate).

F. W. PLEWS Leeds.

In this class the slides did not, in the opinion of the judges, merit the second award of a silver medal, therefore two bronze medals were given.

CLASS IV.—*The Fine Arts, Etc.*

First Prize (Gold Medal, "Niepce").

JOHN W. WADE Manchester.

Second Prize (Silver Medal).

ARTHUR LIONEL SPILLER Hampstead.

Third Prize (Bronze Medal).

W. M. SMITH Leith.

Fourth Prize (Certificate).

ALFRED H. WEBLING Brighton.

In this class there were several entries all of more or less interest; as instance the prize sets. Mr. Wade sends almost entirely statuary; Mr. Spiller, photographs of ancient armour, etc.; Mr. Smith illustrates scenes of Sir Walter Scott's novels; and Mr. Webbing some very excellent copies of paintings by Old Masters and others.

The work of the foregoing prize winners will form the AMATEUR PHOTOGRAPHER 1891 Prize Lantern-Slides, and will be shown all over the kingdom during the coming winter season. Much interest was shown in the 1890 Prize Slides, but these are, we think, more varied, and there will certainly be more to interest the general public. Each prize winner's portrait will be projected upon the screen, and the few descriptive notes supplied will enable the lecturer to make the exhibition of the slides something more than a mere show of pictures.

Mr. Charles W. Hastings will exhibit them for the first time on Saturday evening, the 17th inst., at the Photographic Society's Exhibition at 5A, Pall Mall East. Two tickets are being sent to all the prize winners, and as they are transferable, it is hoped that if unable to be present themselves they will hand them to their "sisters, cousins, or their aunts," as we feel sure much pleasure will be derived from witnessing the first exhibition of our 1891 Prize Lantern-Slides.

WE remind our readers that the Hackney Photographic Society's exhibition will be held on the 21st and 22nd inst., and we are requested to state that the last day for receiving entries is the 17th inst.

WE notice that the Newcastle-on-Tyne and Northern Counties Society propose having an open lantern-slide class in their forthcoming annual exhibition, the last day for entries in which is November 4th. There is only one condition imposed on entries, "that work shown at any of the Society's previous exhibitions is not eligible."

THE Camera Club has already had so many interesting one-man exhibitions of photographs that it is really difficult to find words to express our appreciation of the latest "one-man," Ralph W. Robinson. But of this we are quite certain, that, however good others have been, the pictures by Robinson *filis* will be even more popular than those of Robinson *père*. The series, "Artists at Home," are in themselves worth a journey to see, and although we do not uphold all the work of Ralph Robinson as being of the first order, we cannot help saying that as a whole it shows the most profound knowledge of photography, a wonderful appreciation of nature, and much familiarity with true art principles. We believe that upon application to the Hon. Secretary of the Club, Mr. George Davison, the public are admitted, within prescribed hours, to inspect the pictures shown at the one-man exhibitions. These at present will well repay a visit.

On Monday evening, in addition to the attractions alluded to above, there was an excellent smoking concert given. The visitors much appreciated the advent of the electric light and the extinction of the heating gaslight. The Club is now really finished all but the decoration, and already the commissariat department has had to requisition the use of the library for dining purposes on "Thursday" evenings. Many have been the jokes anent the support and advertisement given to the Club by the AMATEUR PHOTOGRAPHER in the early days. Everything was *then* the best of the best, but now, setting all joking apart, if you really want a nice little dinner for four or five, and have the good fortune to be a member of the Camera Club, well, you can have it; we know, because we have tried.

On the 8th, Captain Abney will give a paper (subject to be announced, says the notice card); 12th, Lantern Evening; 15th, Andrew Pringle, "Bacteria Photographed"; 19th, first of the Elementary Series, "Lenses," by Lyonel Clark; 22nd, Henry Sutton, "Demonstration and Illustrations of Reversal"; 26th, Lantern Evening; 29th, Dr. C. S. Patterson, "Animal Photography with a Hand-camera." What a programme, and how far in advance of the work of the "Parent Society"!

WE shall have something to say about the Photographic Society of Great Britain later on when the proper time comes, but we do not consider ourselves justified in using in these columns that which came to our knowledge in our private capacity, especially as we were then the guest of so distinguished a member of the Council as Mr. H. P. Robinson. It is, of course, well known that dissatisfaction in the management of the Society is a matter of long standing, and at the present time it is probable that the Society will have to meet a crisis worse than any of the many previous ones, and it is quite an open question whether it will not succumb under the ordeal.

IN another column we give some account of the Amsterdam Photographic Exhibition, and it may not be uninteresting to say a word as to the judging. In the first place the judges were cosmopolitan—two Dutchmen, a German, and an Englishman. The Dutchmen could speak fairly well both English and German, the Englishman understood German slightly, the German could speak neither English nor Dutch. Still, there were no difficulties. A system of marks was decided upon, and we venture to say that in our experience—a considerable one—no jury more thoroughly or conscientiously did their work. Every exhibitor's work in every class was examined and marked, and the awards made upon the marks given. No exhibition of photographs has been held in Amsterdam since 1877, and the present exhibition, which is a large one, is mainly due

to the exertions of Herr A. D. Loman and Herr Chr. Schuwer (editor of *Luce*, the photographic journal of Holland), two gentlemen who have been unremitting in their labours to bring the Exhibition to a successful issue. We should say that they can very heartily congratulate themselves upon the success. A very considerable number of pictures are hung, many of high order. England is well represented. Amsterdam, and in fact all the towns in Holland, are full of interest to the photographer—the canals, with their ever-changing and floating population, the beautiful and quaint architectural work, the street and market scenes, and outside the cities the most delightful bits of stream and sedge, cottage life, and picturesque studies. Add to these good points the uniform courtesy and gentleness of the Dutch, and you have what to us seemed a perfect paradise for photography.

The art of photography is rapidly going ahead in Holland. Handbooks are being brought out upon almost every process. Foremost in this work is Herr Schuwer, a gentleman who has the most thoroughly practical knowledge of photography, gained in England and Germany, as well as in Holland; a very efficient English scholar, and one who is able to speak on any section of photography and to demonstrate on any process.

The exhibition is quite the excitement of the old-world town of Amsterdam, and it is whispered that in two years time another exhibition will be held on even bigger lines than the present. We shall review the principal pictures in next week's issue.

THE awards in the last Monthly Photographic Competition cannot be made until next week, owing to the heavy pressure of work in the editorial office.

OUR illustration this week shows us a curious custom which obtains at Ripon. The original photograph of the "Horn Blower" was sent us by Mr. George F. Firth, who says: "When staying at Ripon, a few weeks ago, just as the cathedral clock finished striking nine, I heard a prolonged noise, as if some person was blowing a horn. I quickly made my way to the spot, and there saw, in the principal square of the city, and directly opposite the Market Cross, a man in uniform, wearing a cocked-hat and drab coat, with a large horn. He seemed to blow it a long time, and after the first blast rested about a minute, and then blew a second and third blast. He then proceeded to the residence of the Mayor, and there performed the same feat. I timed the man as to the length of his blast; it lasted thirty-six seconds, he says he has blown forty-eight seconds. The horn is blown instead of ringing the curfew bell."

THE hand or detective camera is fast becoming a pest to society. Not only is it productive of the most fearful libels upon photography, but in the hands of the "cad" it becomes an instrument of real terror to both sexes. The hand-camera man delights to "snap shot" his victim, causing him or her much anxiety, which in most cases is really groundless, as the man who annoys people by taking "snap shots" is, as a rule, only a "plate spoiler," as was evidenced by the unfortunate gentleman in waiting who recently "snap-shotted" the Queen. Her Majesty saw the action, and in the course of the day commanded the "snap-shottist" to submit a proof print from the negative for her inspection. Of course, it turned out to be a perfect caricature. We understand the Queen took the matter in good part, but we are of opinion that the owner of that hand-camera should have been severely reprimanded.

Not long since we were following our avocation at an exhibition, and felt much annoyed at the impertinence of a

"snap-shottist," who constantly sighted his camera to get a shot at us. He doubtless considered such action clever, possibly amusing. Our only consolation was that if he did expose a plate it would be only one more to keep up his record (300 exposures a week, we believe), and swell his heap of spoilt plates.

The hand-camera is the lazy man's companion. A photographer of ability might possibly secure pictures with one, but the wholesale use of them by those who know nothing of photography only degrades the art and brings dissatisfaction upon the user, and finally he throws up photography in disgust. The "You press the button, we do the rest" system has been most detrimental to the advance of photography; this is to be seen by any one who takes the trouble to examine photographs at our exhibitions. A man does not hesitate, if he gets what he calls a pretty "bit," to enlarge it, or have it enlarged and enter it as a direct photograph, yet as a matter of fact he knows nothing of selection, composition, balance, harmony, or anything that goes to make a picture.

The hand-camera, especially if the picture can be focussed, has, in the hands of one who knows how to use it, a very useful place, and to such an one will be a boon companion when travelling, but with those who only use it to get funny (?) pictures at the expense of ladies and gentlemen perfect strangers to them, we say most emphatically that it is degrading to photography.

THE Secretary of the Tunbridge Wells Amateur Photographic Association has sent us the prospectus of the Fifth Annual Exhibition promoted by the Association, to be opened on the 25th of November by Sir David Salomons, Bart., and remain open till the 28th. There will be nine classes "open to members only," five classes for "amateurs" and five for "professionals." The judges, following what is now "ancient custom," will be Sir David Salomons, Bart., H. P. Robinson, and Charles W. Hastings. Lantern entertainments and musical promenade will be arranged for each evening. The 1891 AMATEUR PHOTOGRAPHER Prize Slides will be exhibited on the night of the 27th November.

EVERY evening in the week will soon be taken up by photographic demonstrations. The Fry Manufacturing Company announce alternate "Friday Evenings," 8 p.m., commencing on the 16th inst.; the subject will be "Lantern Slides and Enlarging (Bromide)." Tickets are free, and will be sent on receipt of stamped addressed envelope by the firm. This is a day of enterprise, and Messrs. Fry are to be congratulated upon their new departure.

THE Glasgow International Photographic Exhibition, which has proved a great success, closed on Saturday evening last. The attendance has been daily increasing, and over two thousand were admitted on Saturday, the receipts exceeding £60. Mr. John Morrison, jun., in declaring the exhibition closed, said "That it was a very bold undertaking for a society of amateurs to organise such an exhibition on such an extensive scale as had been done. Their efforts, however, had been crowned with success. The medals are now ready, and we understand will be distributed to the successful competitors in the course of the present week."

"PHOTOGRAPHS OF THE YEAR" progresses, and we are in a position to say that photographs by Henry Stovens, J. Gale, Lyd. Sawyer, Ralph W. Robinson, Walter R. Cassels, Arthur Burchett, A. Horsley Hinton, W. Clement Williams, J. P. Gibson, and T. Birtles have been secured. We shall hope to give the full list of names and titles of pictures next week.

THE PHOTOGRAPHIC SOCIETY'S EXHIBITION.

(SECOND NOTICE.)

WE regret that owing to a misunderstanding at the office the proof of our first notice last week went to press without correction. For this our apologies are due to our readers.

In reviewing the pictures of the year we shall endeavour to approach our subject with strict impartiality. The critic in such a case should be without *parti pris*, wedded to no school, without preconceived opinions, without preferences, and an impassionate and intelligent observer. He must be careful not hastily to reject all and every the examples before him which are conceived and executed in a spirit contrary to his own personal ideas. He should be able to discover and to praise productions which individually, perhaps, he may not like, but which to judge fairly he should understand and appreciate.

In a gallery of this kind we ought to find something to please all tastes; something to amuse, something to inspire tender feelings, something elevating, perhaps even sublime, something to make us dream, something, in fine, to make us thoughtful and desirous of sounding the hidden meanings and sentiments which an artist may have endeavoured to present to us. We shall find here examples of the school of naturalists or impressionists, whose idea is to show us the truth and nothing but the truth. We shall find assuredly those to whom photographic realism is more attractive, the difficulty wherein lies in avoiding the trivialities of vulgar life, and in succeeding in the endeavour to invest it with sentiments more replete with feeling, more striking and more searching than reality itself. None perhaps more than the photographic artist is inclined to err from the difficulty he finds in placing restraint upon himself. It is not good art to tell the whole story. Art consists rather in economising and concealing, in placing by means of talent of composition essential ideas in prominence, and in giving to others the amount of relief, or the reverse, which they require; in bringing some more to the front, and in investing the whole with a sensation of truth and feeling which is not superficial and apparent perhaps at first glance, but which has an undercurrent of a certain amount of subtlety and hidden meaning. There are those, no doubt, whose sole aim is to interest an indolent and ignorant public, ever ready to be taken in by surface sparkle; such as these go calmly on year by year, but their work never rises above mediocrity; a mediocrity with which they appear to be sublimely contented.

The material we have to deal with in such a comprehensive exhibition is necessarily somewhat large, when we take the number of frames into consideration, and it would not be possible within a limited space to notice the whole, or to devote very much to any one picture. We shall not profess to follow any particular order or method, but shall take rather the pictures, or sets by one artist, as they happen to present themselves in our note-book, leaving some which equally demand attention to be dealt with in our succeeding notice.

It is undoubtedly to landscape that the attention of most workers who are not workers by profession is chiefly directed, and of this we have abundant evidence before us. It is also but too true that there is no such thing as a photographic artist by profession. It can hardly be asserted that the professional photographer, so-called, can claim, in its highest sense, to represent the artistic side of photography. Until therefore the demand creates the supply, until, in fact, it would pay to devote a lifetime to the study and practice of picture-making, we must be content to take things as they are, to be as blind and indulgent as possible

to failings which are often the fault rather of the system than of the man, and as kindly disposed as we can be towards points where merit asserts itself.

Mr. W. R. Cassels.—Mr. Cassels sends four pictures which are certain to attract considerable attention. Their technical excellence is above criticism, and the management of the light and use of white, or nearly white, backgrounds, unusual and striking. "In the Land of Dreams" (29) is charmingly poetical, the composition good, draperies well arranged, and the difficulties of lighting cleverly mastered. "Dollies' Tea-party" (27) is of a more homely character, and again the grouping and natural positions are well done. All these pictures are focussed to the *n*th power of definition, and how stereoscopically round and tangible the figures stand out against the white backgrounds; how they suggest atmosphere almost, even if this be perhaps rather a rarefied one! Notice the pictures hanging on the walls in one of these scenes. Why, we feel inclined to take hold of them and detach them! Mr. Cassel's laboured composition on the screen "Till Death do us Part" (580) is by no means so good. It is difficult with such arrangements, in photography, to avoid descending into bathos.

Mr. P. Ennis.—In "Shades of Evening" (12) the sky appears to be faulty and not suggestive of the title. "A Nocturn," also, hardly gives the impression implied by the term. Compare it with L. C. Bennett's "Nocturn" (157), which is much more satisfactory. The best of this set is "Daybreak" (14).

Mr. J. B. Hilditch.—These are three representations of winter, near Richmond (2, 51, 59), and in many respects meritorious. In "Sunrise" (2) the mist is effective, and there is movement in the floating masses of ice, but it is spoilt by the long traversing line of the tow-path.

Mr. Karl Greger.—Karl Greger's pictures are miniatures almost in effect, so microscopic is the sharpness of definition and details. Very pretty little pictures indeed are they; carefully arranged with evident patience and thought. They are of a kind which no doubt will deservedly attract the attention and emulation of many an amateur worker, and if these can succeed in producing such clover and telling little bits as the shepherd, with his dog, lighting his pipe in the midst of his flock (221), they will do well. Mr. Greger's style of work is very similar to that of

Mr. Bernard Aljieri. who sends two small pictures, "Against the Sky on the Sea-wall" (146) and "A Coming Storm" (152), both hung, unfortunately, a great deal too low. The idea of the first is good; after that, patience and opportunity more than anything else sufficed to produce it. The second suggests, rather, a district which has been subject to storm for a considerable time, and where the trees are permanently bent into their picturesque condition.

Mr. L. Selby.—"Fast Falls the Eventide." Surely the sun is rather high up for evening, and the shadows somewhat short; the result of such a combination is rather perplexing.

Mr. Lyddell Sawyer.—The majority of Mr. Lyddell Sawyer's pictures (six in number) are this year of one character, and that a novel and striking one. They are candle, or, at any rate, artificial light effects, and remind us with considerable force of a school of Dutch painters which flourished in the seventeenth century, and had its representatives at the end of the eighteenth and even later. Many will, however, while giving every credit to Mr. Sawyer for much deserving of praise, regret that he has this year denied us pictures in the style of his "Smoky Tyne," in favour of effects which are clever rather than artistic, tricky rather than elevating. Most people who are acquainted with the art of various epochs will remember the market scenes, and others, of some Dutch painters, illumined by candle-light in

various ways. But such pictures have never received much consideration, despite the great talent of some of those who produced them. Gerard Honthorst (Gerardo dalle Notte, as he was called from the subjects of his pictures), Schalken, a pupil of Gerard Douw, Arnold van Boonen, a pupil of Schalken, among the early masters; and Peter van Schendel, who died so lately as 1870, are the best known of the painters who affected this style. And while these works have never recommended themselves highly to connoisseurs, we must remember that they had the advantage of colour, so singularly in their favour; for it was the practice of Schalken, at least, to vary his effects by the introduction of coloured screens, curtains, or other accessories. We do not, also, remember any paintings of this kind where the candle, or lamp, is the sole source of light, as it is in Sawyer's photographs. Correggio's "Nativity," where the light streams in a concentrated manner from the Holy Child, is, of course, well known, and Rembrandt's wonderful effects; but can photography aspire to imitate this idealism? Such digressions as these would, however, lead us too far. To return to Mr. Sawyer, we cannot help remarking that there is a sameness of effect by our attention being so constantly fixed on the source of light, which worries one; the true sentiment of the picture, such as it may be, is lost and buried; we can see only the flashes of light on the face, and everything else is subservient. Again, we know that the painters used coloured media with intention: they were aware that the *tones* of the whole picture were affected by them. In the instances before us the effect of candle-light is intended, and it is brought about—by magnesium! The best of this series is perhaps "The Last Rehearsal." The light effect is distributed with considerable art, and the whole execution well cared for. One searches, however, for the light itself. If it be a candle it would seem to be placed in an awkward position, not the best calculated to illuminate the pages of the music; for one cannot imagine that the object of the ladies would be to show us the effect on their faces. Referring again, also, to the Dutch pictures, in nearly every instance the candle itself is visible. Here it is not so, and the reason is obvious. We could say more, but our limits confine us to repeating that, other considerations apart, very great credit is due to Mr. Sawyer for his originality and evident thought and care. With such difficult subjects, he has avoided, on the one hand, chalkiness in the high lights, and on the other absolute blackness in the shadows; the smoke also is well treated. To cavil at the angle of the mirror in "Reflections" (78) or the light on the edge of the blind man's book (80), or to say that a blind man does not require a lantern, is childish and unreflecting.

Mr. G. Piercy.—"Tewin Water" and "A Hayfield," two pictures in one frame, do not strike us as possessing the kind of merit which should entitle them nowadays to be hung on the line. But, as we said in our previous notice, the work of the hanging committee this year defies criticism.

Mr. Burchett.—We have before noticed with the highest praise Mr. Burchett's "A Knight," when exhibited at the Camera Club, and we need add nothing to what we then said. This year he also gives us a charming arrangement of a girl at her spinning wheel; very soft and harmonious. Perhaps, however, neither this nor "The Sailor's Daughter" (135), which hangs next to it, are quite so attractive as his well-known "Girl with a Violin." It appears to us also that "The Sailor's Daughter" is almost completely marred by the ugly line of hand and wrist which grasp the sail.

Mr. U. French.—Mr. French sends some views at Monaco which he calls "Studies." Oh, that much abused and misapplied term which has crept into photographic phraseology! Any and every thing is called a study nowadays. Now a study is a term universally applied in every language,

which has a perfectly well understood meaning of its own. We cannot here give space to enlarge on its proper definition, but we take the opportunity of protesting against its misapplication. Snapshots are, perhaps, the most frequently dignified by the term! However, these particular studies have no merit whatever, and we cannot see what anyone would gain by studying them.

Mr. J. B. B. Wellington.—Much is, of course, expected from the author of "Evening." We have this year, in "Cattle on the Banks of the Thames" (60), a difficult piece of arrangement which has many good qualities. A straight line of river bank; for foreground and middle distance the shallow water itself, with reeds and river grass showing here and there; on the low bank, cattle and horses standing in the loose and lazy way suggestive of a baking-hot midsummer noon-day heat—too lazy, indeed, to whisk the flies off their sides with their tails, the horse in the centre hanging his languid head, and especially happy in the attitude in which he has been caught; a general atmosphere of summer haze, an air in which nothing stirs and in which we can almost hear the buzz of insects and distant dreamy bell; reflections in the stagnant water which do not distress or vex us with commonplace obtrusiveness; a sky which, with rare discretion and restraint, the artist has left without unmeaning clouds. In all this we have the elements of a good picture, which in many ways have been used to great advantage. It might be better balanced. Mr. Wellington has wished to give us an oblong picture, but it would be improved by cutting off a good deal on the right. The introduction of the white cow is clever, but not altogether successful. In short, while we gladly give credit for great ability, we recommend the picture to the careful reconsideration of the artist, knowing, however, that such things cannot be done without great patience, apt grasp of opportunity, many trials and disappointments, and a perfect mastery of photographic manipulation. It is a bromide print, of course. The other, "Contemplation" (60), is colourless and uninteresting.

Mr. H. P. Robinson.—It would be too much to expect that Mr. Robinson should produce for us every year a "Dawn and Sunset," but we may be certain that whatever he gives us will be more difficult to find serious fault with than the work of any other living photographer. In his three pictures at this exhibition there is no doubt an absence of general attractiveness which, in his case, is certainly unusual. One of them is a subject which he appears to have selected as a counterblast to the "onion-field," another approaches dangerously near the purely topographical, the third is an able composition with much which shows observation and clever execution; and yet none of the three are pictures which, as we might say, one feels a desire to live with. In "Through the Butter Bur" (69) we have a figure of a gamekeeper walking through a field of turnip-like weed, in a pretty and well-considered landscape. The high lights on the weeds are very pronounced, and we would suggest, with due deference to the distinguished artist, whether this is not a fault inherent to or difficult to deal with in photography; such a thing, for instance, as we find in endeavouring to render the correct values of water-lily leaves lying on the surface of the water, and brilliantly illuminated. We are not, however, sufficiently acquainted with the weed in question to decide the point, and we do not forget that to consider green a dark colour is evidence of colour-blindness. "Shakespeare's Cliff" (71) shows us the cliffs under a sombre aspect, lighted from behind, and subduing, if not annihilating, the brilliant whiteness we usually associate with them. "Cuckmere Haven" (70) is a picture which we should expect from no less a man than H. P. Robinson. The white cliffs are very effective, and the solitary figure of

the shrimper wending his way across the sands has a suggestion of movement which shutter photography will not give. How good, also, are the sky, and the reflections on the wet sands!

Mr. J. Gale.—Mr. Gale's pictures are to be recognised anywhere. This year he also is below his usual level in attractiveness which will draw the public eye. On the other hand, we are not sure but that such a charming little picture as "In the Orkneys—after Sunset" (115), in a style which we think is new, or at least unusual with him, is not worth more than many of his pictures which have been very much more popular. It is just after sunset; the brilliant colours which have illuminated the sky on the disappearance of the sun have given place to more sombre and subdued effects; the atmosphere is less rarefied, and a solitary boat in the contre completes a very effective and poetical picture. The sky and clouds are the natural ones, of course, and the shadows and reflections are consequently harmonious. In "A Village Tradesman" (112) we have an old fellow leaning on his stick, at the door of a cottage such as Gale is so fond of giving us; in the "Peat Carrier" (113) a model old woman with creel on back, admirably posed, and with a realism which is not devoid of sentiment and poetry; and in "A Lesson in Spinning" (114) the same excellent model is working at her spinning-wheel, at the door of her shealing, a girl standing by, watching her movements with interested attention. All these little scenes are careful in composition, ideal in their tendency, perfect in technical execution. What more can be said for those who are acquainted for so many years with Mr. Gale's effective cabinet pictures?

Mrs. Main.—With regard to the frame of pictures which the judges have thought fit to honour with the Society's medal, we feel sure that we shall be expressing the feeling not only of the advanced school, as they are called, but also of many others of all shades of focus, or the want of it—impressionists, realists, or idealists—when we say that, from an artistic standpoint, the medal has, in this case, been ill-bestowed. The pictures are technically good

—true, but how uninteresting, except scientifically! Is it possible to imagine any painter of distinction selecting such a subject, and treating it in such a way? Feeling and sentiment are alike absent and impossible. Let us conclude, however, that science has been recognised; but, after all, have the difficulties been so supreme, and the surmounting of them so unusual?

The Duke of Newcastle.—The Duke of Newcastle's pictures

of animals at the Zoo are painfully distorted, from the wrong application of the lens. They are well printed: we presume by the Autotype Company.

We have still to notice a large number of prominent pictures; amongst them, these by Messrs. Cembrano, R. Robinson, Stevens, Dresser, Horsley Hinton, Maskell, Gibson, Douglas, Conway, Cobb, Collier, and the portrait or studio pictures.

—+ + +—

BEGINNERS' DIFFICULTIES.

Our plate is developed, and the next operation is either fixing or the use of an alum bath, and we shall proceed to discuss the pros and cons of using an alum bath between developing and fixing. Assuming that we have been using pyro and ammonia, on placing the plate developed with such a developer in a solution of alum, the ammonia present in the film will decompose the alum, and precipitate the gelatinous hydrate, if there is much ammonia present, thus giving rise to curious markings in the film. These markings are by no means always formed, because probably there is not

sufficient ammonia present, and so far as our experience goes they are never formed when an alum bath is used which contains free acid such as citric or sulphuric. In the case of hydroquinone and the caustic or carbonates of the fixed alkalies, this "slime" is often formed, and we have very frequently had to explain the peculiar appearance given by this decomposition.

Another disadvantage in the use of the alum bath is that if the plates do not receive a thorough washing the alum absorbed by the film will decompose the hypo and cause a deposit of sulphur in the film, which nothing will get rid of. The best fixing bath to use, whether for plates or

ILLUSTRATION FOR THE WEEK.



THE HORN-BLOWER OF RIPON.

BY GEORGE F. FIRTH.

films, for pyro or hydroquinone development is certainly the acid or the acid alum fixing bath. The acid fixing bath not only hardens the film but also acts as a clearing bath and prevents staining. This acid fixing bath may be made, as many of our readers are aware, by adding the commercial acid sulphite of soda lye in the proportion of 1 oz. of the lye to every pint of fixing bath of the usual strength 1:4. The acid bath may also be prepared with the ordinary sulphite of soda, as follows:

Tartaric or citric acid	150 grs.
Sodium sulphite	$\frac{1}{2}$ oz.
Hypo	4 oz.
Water	20 oz.

Dissolve the sulphite in two ounces of water, and the acid in 1 oz. of water, mix the two solutions, dissolve the hypo in the remainder of the water, and add gradually with constant stirring the acid sulphite solution. This fixing bath will keep for any length of time, and gives beautifully clean negatives.

The great fault with many amateurs is the sparing use of the hypo bath. Hypo is so cheap that it is far better to use a fresh bath every time than run the risk of half-fixed or badly-stained negatives. It is as well to remember that it is not only necessary that the bromide of silver should be dissolved, but that the double salt of silver and hypo should be in a state of solution, and consequently it is advisable to use plenty of a strong solution of hypo, or preferably to use two fixing baths, placing the negatives as soon as the unacted-on silver salt has apparently dissolved. Fixing should be allowed to continue at least ten minutes after the whole of the white or yellowish silver salt has disappeared; the neglect of this precaution frequently leads to stains, which are extremely difficult to remove, and may also lead to fading of the negatives.

Staining of the gelatine occurs from using a fixing bath too long, or from using one which is badly discoloured by the small quantity of developer carried over. This naturally leads us to the question as to whether it is advisable to wash the plate between developing and fixing. Where there is a good supply of water it certainly is advisable, but where water is limited, or not handy, the plate may be at once plunged into the fixing bath, and if the same is acid, as recommended above, no harm will accrue, and the chance of staining reduced to a minimum. As we have already stated, hypo is so cheap that it is hardly worth while sparing it, but if economy is an important point it is preferable to precipitate the silver, and thus more than pay for the extra small outlay on fresh hypo.

We have often been asked whether it is necessary to fix in the dark, that is to say, whether as soon as the development is complete it is not possible to take the plate out into daylight and fix it there. In fact, last week we had a visit from an amateur who stated that he never had seen any statement in any text-book on this point. The subject cropped up in our correspondence columns some year or two back, and the general consensus of opinion seemed to be that no harm resulted from such a practice. We carried out some little time back a series of experiments on this point, and came to the conclusion that unless the developer

was well washed out, or the power of the same destroyed by an acid bath, the light had some effect, even though slight, on the unfixed plate, slightly flattening it, and, probably from the action of the air, staining the gelatine most markedly, especially with pyro as the developer. Therefore we recommend the placing of the negative in the fixing bath in the dark-room, and, if required, removal of the same then into daylight.

We have now briefly run through what may be the leading questionable points of fixing. It merely remains for us to remark that a fixing bath which has been used for pyro-developed negatives should not be used for hydroquinone, eikonogen, or ferrous-oxalate developed negatives, or prints, and *vice versa*. Finally, the general custom is to use flat dishes for fixing, but our practice is to use a grooved trough made of vulcanite with a cover. In this we can place twelve half-plates, or the same number of whole plates, and when they are quite fixed the solution can be emptied out, fresh poured in, and the plates even washed in the same trough.



Letters to the Editor.

DEVELOPMENT.

SIR,—As I often see numerous queries in your paper about development troubles, and as formerly I was troubled often in the same way, allow me to give your readers the benefit of my experience.

Having tried every developer advertised, and objecting to our old friend pyro and ammonia, on account of its staining propensities, and the objectionable fumes of ammonia in a close dark-room, in a happy moment I tried Fry's Sulpho-kinone, and have used nothing else for the last two years. It is, without exception, the most perfect developer extant. Suits bromide paper and opals, as well as all brands of plates that I have tried equally well, and if the "Perfect Hypo Bath," p. 150, "Year Book of Photography," 1891, is used in combination, it is impossible for the merest tyro to fail in getting perfect negatives. Clean, safe, and economical (two ounces will develop ten half-plates), it is the greatest boon to both professional and amateur. With it any amount of density can be obtained, and even in the case of gross over-exposure, where with pyro or any other developer success would be hopeless, by using old developer, or adding a little water, excellent negatives may be obtained. The solutions keep well, but it is advisable to keep the mixed solution in a well-corked bottle.

I may conclude by saying that I have no object in letting the public know the enormous advantage of using this developer, beyond the fact that in these days of competition, when a really perfect article is put on the market, it is only fair it should receive the support it deserves.—I am, etc.,

Finnart House, Ballantrae, Ayrshire,

October 3rd, 1891.

JOHN POWER.

* * * *

A FALSE ACTINOMETRIC THEORY.

SIR,—Mr. Watkins seems to feel aggrieved because of my trying to arrive at some scientific data with regard to this subject, and I may find a certain thing work well, although theoretically and scientifically it is not a constant factor. However, as Mr. Watkins is evidently tired of the subject, I have no more to say at present till the completion of my experiments on the ratio of

EXHIBITIONS.

SOCIETY.	Place.	Open.	Close.	Last date for sending in.	Secretary.
Exhibition Committee ...	Amsterdam.	Oct. 1.	Oct. 15.		Chr. J. Schuwer, P. C. Hoofstraat 72, Amsterdam.
Phot. Soc. of Great Britain	London.	Sept. 28.	Nov. 12.	Sept. 16	H. A. Lawrance, 50, Great Russell Street, London, W.C.
P. Soc. ...	Hackney.	Oct. 21.	Oct. 22.	.....	W. Fenton Jones, 6, Victoria Street, Hackney, N.E.
Art Gallery Committee ...	Leeds.	Dec. 7.	Jan 9.	Nov. 27.	Geo. Birkett, Municipal Art Gallery, Leeds.

the formation of an invisible image and the formation of a coloured product. Certainly a gelatino-bromide paper treated with no salt at all cannot be so hygroscopic as one treated with a nitrite. In my experiments I have tried to discover some agent possessing a reducing power like a nitrite but without its great hygroscopic property, and have succeeded, but this has no interest at present, of course, to Mr. Watkins.—Yours truly,

OSIRIS.

* * * *

VITRIFIED PHOTOGRAPHS.

SIR,—We observe your notice of our exhibits of burnt-in photographs at the Pall Mall Exhibition in your issue of the 2nd inst., and your criticism would have been of considerable use to us if you had pointed out in which way "the results obtained are not quite up to the required standard." If you judge them in the point of view of photographs, we are quite of your opinion, and we do not feel much humbled to be told that our photographic productions do not come up to the standard of Van der Weyde's work, that of Warneuke, or other medallists of the exhibition, as we had no such pretensions. We can only say that we could probably not have done any better in the most simple process on paper, and we are perfectly aware that our process would give better results in the hands of such photographers. But let us say also that our exhibits are not in a position to be viewed at best advantage. They were made of a density to suit a strong light, such as would be found in a window, and being placed on a table almost in the centre of the room they appear much too dark in such a shady place; but the density obtainable almost to any degree by our process is another of its great advantages over other processes which, although giving sometimes sufficient density on a white porcelain or enamel ground, vanish entirely which when applied on glass. Moreover, the diversification of colours our exhibits offer when held up in a strong light is not apparent in their present position.

The advantages we claim for our process are—

(1) Its simplicity in not requiring any retouching, re-painting, or artistic work of any kind, which all other processes practically necessitate.

(2) The cheapness of its production, costing nearly the same as good photographs on paper.

(3) The number of colours produced by it.

(4) Its greater truthfulness of rendering than by other processes requiring artistic labour.

(5) In common with all burnt-in productions, its permanency.

—Yours, etc.,

OFFELEIN AND CO.

54, Berners Street, W., October 3rd.

* * * *

AWARDS AT THE PHOTOGRAPHIC SOCIETY'S EXHIBITION.

SIR,—I enclose copy of letter I wrote to-day to the Secretary of the Photographic Society, and should be obliged if you would kindly publish it.—Yours, etc., HENRY VAN DER WEYDE.

[COPY.]

To the Secretary of the Photographic Society
of Great Britain.

SIR,—My attention has been called to an article published last week in a leading London daily on the Pall Mall Exhibition, stating that "the choice of the medal to be allotted to the portrait section lay between a charming group by Mr. Van der Weyde, of the Countess, etc. (giving titles), and a life-like portrait (giving name) by Mr. Warneuke; ultimately it was awarded to the latter, as Mr. Van der Weyde's picture had been exhibited in London and was therefore not entitled to competition."

Now, sir, as my picture was entered for competition, I hasten to correct the false impression which has doubtless been formed by this statement, especially after what occurred last year, by saying that the picture referred to has never before been publicly shown.

It is possible that it has been confounded with one of two similar groups before exhibited, but quite distinct, not only as to the posing of the heads and hands, but also as to the relative position of the ladies at the table, the lady Helen having changed places with her vis-à-vis in one, while in the other the ladies are represented as taking tea instead of embroidering.

As the imputation has been allowed to go forth to my discredit without enquiry or contradiction, I am compelled to ask you to lay this, my resignation, as a member of the society, before the Council at their next meeting.—I am, sir, H. VAN DER WEYDE.

182, Regent Street, W.

PLATINOTYPE PAPER.

SIR,—It may interest those of your readers who wish to practise photography in the tropics to hear the result of an experiment which has been made by our American house for keeping platinotype paper in good condition during the very trying season of a New York summer.

The paper was packed in tins and shipped in the ordinary manner, but on its arrival the tubes containing the paper were immediately transferred to a cold storage-chamber, similar to those which are used for keeping Australian and other frozen meat.

After nine months the paper was taken out and found to be in perfect condition, in fact, as good as the day it was made.

Of course, nine months is not a long time for paper to keep in good condition in this country, but those who have known a New York summer, especially such a one as that which has been experienced in America this year, will appreciate the success of this trial.

Most of the large ocean-going steamers are now fitted with refrigerating chambers, it therefore becomes quite easy to ship the paper to any part of the world and to ensure its keeping in good condition, even in the most trying climates.—Yours, etc.,

ERNEST J. HUMPHREY.

The Platinotype Co., 29, Southampton Row, W.C.

September 29th, 1891.

* * * *

GERMAN CUSTOMS AND DRY PLATES.

SIR,—Seeing your remarks about Mr. Graves' experience in photographing in Germany, I quite agree with your remarks that with "forethought" the gentleman could have saved himself a lot of trouble.

I have just recently returned from a visit of some sixteen days there, and had two cameras with me. I photographed freely without let or hindrance at Cologne, Bonn, all down the Rhine, Heidelberg, Baden-Baden, etc., and was never interfered with in any way, but I certainly took the precaution not to photograph in the vicinity of fortifications. It is, or ought to be well known that most of the Continental nations are most strict on this point, otherwise there is no more difficulty in photographing than in England. I have never had the least trouble in passing the various Customs, although I have been pretty much over the Continent, some eight or ten times, and when I hear of trouble with the camera, I invariably put it down to the photographer's fault.—I am, yours, etc., J. R. GREATORIX.

* * * *

DISQUIETING RUMOURS.

SIR,—I am glad to see the letter on the above subject in your issue of last week, because I had heard the same thing, and moreover that the P.V.P. had resigned his position and membership of the parent Society, together with the gentleman who was to have been removed by the policeman, and the foremost exhibitor whose pictures were removed, and that these two latter gentlemen were on the Committee of the Society.

"Fair Play" has evidently overlooked the fact that some process prints are also exhibited which have actually been issued as illustrations by you.

There is also one point to which I should like to draw attention: why are Col. Waterhouse's interesting examples of reversal with thio-carbamide classed among the trade exhibits? And again, is it true that a medal has been awarded a picture because it was exhibited by a company, one of the leading men of which is a prominent official of the Society, and an equally fine picture by a foreign exhibitor totally ignored?

These things have been whispered into my LONG EARS.



The Fry Manufacturing Co. inform us that the issue of their little book on "Lantern Slides, how to Make them," by Mr. A. R. Dresser, has been very successful, and that the whole of the first edition of five thousand copies has been sold, except the last five hundred copies, and that a new edition will be at once put in hand, as the sale is very brisk. In the new edition the matter will be carefully revised and a supplementary chapter on apparatus, such as lantern-slide making cameras, printing frames, etc., added. Suggestions from our readers will be welcomed, and should be addressed to the firm at 5, Chandos Street, Charing Cross.

Composition, and Light and Shade.

Selected and arranged for the use of Photographers, from "Burnet's Essays," with Introduction and Notes.

By H. P. ROBINSON.

CHAPTER XVII.

Fig. 37. In a single head we often have but one light ; it is therefore necessary to get it to harmonise with the shadow, either in the background or upon the dress. Rembrandt, accordingly, frequently painted the light of the dress of the same colour as the shadow side of the face, thereby keeping up a union and simplicity. In fig. 38 we have the hands making a second light ; and in fig. 39 we have three spots of light, the shirt and ruffles of both hands : this is the Titian Reynolds thus mentions in the description of the Dusseldorf gallery, and which is now in Munich : "A portrait of a gentleman, by Titian, a kitcat ; one hand a-kimbo, the hand itself not seen, only a bit of the ruffle ; the other, the left, rests on what appears to be his sword ; he is looking off. This portrait has a very pleasing countenance, but is not painted with much facility, nor is it at all mannered ; the shadows are of no colour ; the drapery being black, and the ground being very near as dark as it, prevents the arm a-kimbo from having a bad effect. It is no small part of our art to know what to bring forward in the light, and what to throw into shade."

The linen in this picture, and most others of Titian, is light and cutting, the flesh forming the half light. Reynolds, talking of the Descent from the Cross, by Rubens, says, "he well knew what effect white linen, opposed to flesh, must have, with his powers of colouring ; and the truth is, that none but great colourists can venture to paint pure white linen near flesh ; but such know the advantage of it." In Rembrandt we generally find the same treatment, although I have often observed the linen kept cool when near the face. To give the flesh a luminous character, he often introduces cool tints



FIG. 38.—REMBRANDT.

coming near it, and when he can find nothing else, uses the shadows of linen for such purpose. In Vandyck's early Italian manner we find the linen much brighter than in his later works, where it became more of a leaden cast.

We sometimes find the light of the sky introduced for the purpose of repeating the lights of the heads and hands, to spread and enlarge the lights of the head and give it more consequence, as in fig. 40. As it is of the utmost conse-

quence that every object should keep its relative distance with regard to the eye of the spectator, it is a good method to define those parts we wish to advance by a dark shadow coming in contact with them, and to surround the retiring portions with a ground of a less opposing character ; as we know lines strongly and sharply defined will approach, and those of a softer nature will retire. Such blots are afterwards to be accounted for by the contrivance of the artist : in this consists the application of the background to the figures, one of the most difficult and essential portions of the art.



FIG. 37.—REMBRANDT.

emanate from very few sources, and that these sources are of a very simple nature. Every thing within our view is filled with examples, and the mind of the student requires only to be directed to an examination, and investigation of the subject, before commencing any work, or while in the progress. He must not only know what is his intention, but must be in possession of the best method of expressing such intention.

This chapter is of importance to the portrait photographer. The composition of such an apparently simple thing as a single head requires as much careful consideration as more intricate compositions. It would be out of place to go fully into the subject here, but the student

may be reminded that every face is worthy of separate study that a man was not yet born who had the two sides of his face alike, the one more pictorial than the other, and that a single head gives the best opportunity of finding and expressing character and giving true expression, and is not without facilities for showing variety of line, breadth and contrast. Portraits are too often treated conventionally ; posed all alike in the same place in the studio, the same light, and with the same want of expression. A separate study of each sitter would make the work more interesting and the result more valuable.



FIG. 39.—TITIAN.

However difficult it may be for the followers of our prosaic art to alter or improve nature, the portrait photographer has, or ought to have, almost complete control of the chiaroscuro of his picture. Nothing need be left to chance; the arrangement of



FIG. 40.—VANDYCK.

his studio should be so contrived as to give him any effect he may desire. If it be remembered that by the minute modifications in the place, form, and depths of shadows, the whole of the infinite range of expression of the human face is determined, the importance of judicious lighting and skilful disposal of shadows will be appreciated.



The Application of Gaslight to Photography.

THE INCANDESCENT GASLIGHT COMPANY.

As early as 1857 gaslight was used for portraiture, but the inordinately long exposure (about 60 to 90 seconds) placed it entirely beyond practical work. In 1880, Laws, of Newcastle, made a special burner with sixty-eight jets which, however, from the great heat and consumption of gas, never found its way into general use. The greatest advance in this respect has been made by the Incandescent Gaslight Company, 14, Palmer Street, Westminster, whose factory we visited last week to see the advances made, and practically test the light.

The source of light is a glowing mantle of some of the rarer metals—zirconium, lanthanum, thorium, cerium, etc.—raised to the incandescent glowing point by gas or a mixture of gas and air or carburetted air. The original light, the invention of Auer von Welsbach, has been considerably improved by the scientific research carried out under the auspices of the present company, and the old fault of extreme friability of the mantles has now been overcome, as they can be sent by post, as is frequently done to the company's clients on the Continent.

The advantage of being able to employ a light of great and of reasonable lasting power is enormous, as the loss of

light after burning some hundreds of hours is so small as to be negligible, and the life of one of the mantles may be reasonably said to be from 500 to 1,000 hours. The makers of this light are prepared to supply mantles giving light of any desired colour or specially rich in the rays of any particular portion of the spectrum, thus enabling it to be used for special scientific research or investigation.

In regard to the practical application of the light. By a judicious arrangement of ten burners on what is the light side of a sitter, and three burners on the shadow side, we are able to obtain a well-exposed negative of a cabinet head in seven seconds,

on an extra rapid studio plate, and without any of the harsh contrasts so difficult to avoid in using artificial light. Another practical application of this light is for enlarging and for use in the optical lantern; by its aid the duration of exposure for enlarging is reduced to at least one-third, and the chance of disastrous explosions from compressed gas is avoided. In the accompanying block is seen the small portable apparatus specially manufactured for use with the ordinary optical lantern; it consists of a deal box containing an air-bag, B, and carburetter, A, and a blower C. Pressure upon the blower by the operator's foot fills the air-bag B with air, which then passes under considerable pressure through the carburetter A, which contains benzoline or any rectified petroleum; the air thus passing through the carburetter becomes impregnated with the petroleum vapour, and issues through D into an india-rubber tube which is connected with the special burner, as shown in the following diagram. The carburetted air being ignited at the burner, raises the mantle to the incandescent point, and a splendid white light is obtained of from 100 to 150 candle-power, according to pressure, at the cost of less than one penny per hour. We have practically tested this as applied to the lantern, passing through several slides, and we feel certain that the death blow has been struck to the use of mineral oil lamps for lantern purposes. But even when used with ordinary house gas, the light obtained is of great brilliancy, and far superior to the ordinary oil lamp. Of the application of this lamp to photo-micrography or special scientific research, we need hardly speak at any length, as its advantages are obvious; of the application of the light to ordinary household purposes, there is not the slightest doubt that an examination of the pamphlet issued by the company will at once convince the most sceptical that they do not claim too much. We should strongly advise all lantern workers, secretaries of societies, and others

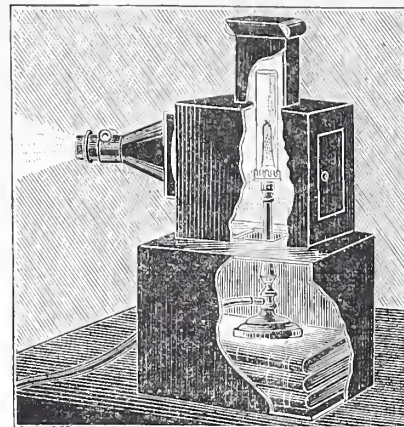


FIG. 1.

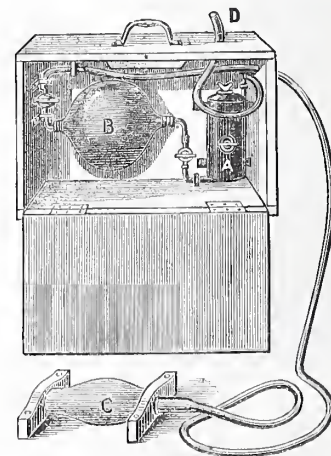
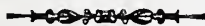


FIG. 2.

generally interested, to call upon the company and see the light in action for themselves, and now that the dark days are coming on, this light places it in the power of the professional to make good portraits, notwithstanding the fog and non-actinic quality of the daylight. The Company will be pleased to afford enquirers, either personal or by post, full information, and we expect to hear a good deal of the incandescent gas-light this winter.



Photographic Procedure.

By E. J. WALL,

Author of the "Dictionary of Photography."

SECTION I.

THE CAMERA AND ITS APPURTENANCES.

(Continued from page 237.)

Testing Instantaneous Shutters.—It is essential for successful instantaneous work to be able to know the speed of a shutter, and whilst many commercial shutters may be relied upon, others fail considerably in giving the advertised speeds.

Many methods have been adopted for testing shutters, and the following is a résumé of the leading methods.

First, by obtaining the image of a body falling at a known rate. For this purpose it is necessary to have a staff or rod graduated in divisions, and a falling body of such a colour as to reflect light well; this may be either a square block of wood painted white, a brass ball, or even a small plate has been suggested. Mr. Blake, an American amateur, thus describes such an arrangement:—

"My apparatus consists of a vertical staff about six feet in height, rigidly attached to an iron bed plate. The staff is painted black, and is graduated downwards on its front face in white lines to feet and hundredths. At the top of the staff is a moveable piece readily adjusted to the height which brings the image of the sun as seen upon the surface of the ball, exactly in a line with the zero of the staff graduated. The silvered brass ball, 2½ in. in diameter, and 2lb. 2oz. in weight, is suspended by a short piece of silk trow line attached to a small vulcanite ring, which, in turn, is held by a spring clip; the ball is released, and, falling parallel to the graduated staff, is received into a padded box attached to the bed plate. It is perhaps needless to say that the exposure is made while the ball is falling; and that the length of the exposure is computed from the scale readings of the beginning and end of the black line, which marks the path of the reflected image of the sun."

The formula used in computing a table showing the time of a falling body to the ten-thousandth part of a second for each hundredth of a foot from 1.00 foot to 5.59 feet is as follows:—

$$t = \sqrt{\frac{d}{g}}$$

t = time, d = distance fallen, g = the gravity constant of any latitude.

The following tables will be useful, and may save calculation:—

TABLE showing the time in seconds which a body takes to fall from rest to any point up to 10 in., by tenths of an inch.*

IN.	0	1	2	3	4	5	6	7	8	9
0	0.000	0.023	0.036	0.044	0.046	0.051	0.056	0.060	0.064	0.068
1	0.072	0.075	0.079	0.082	0.083	0.088	0.091	0.094	0.096	0.099
2	0.102	0.104	0.107	0.109	0.110	0.114	0.116	0.118	0.120	0.122
3	0.125	0.127	0.129	0.130	0.133	0.135	0.137	0.138	0.140	0.142
4	0.144	0.146	0.147	0.149	0.151	0.153	0.154	0.156	0.158	0.159
5	0.161	0.162	0.164	0.165	0.167	0.169	0.170	0.172	0.173	0.175
6	0.176	0.178	0.179	0.181	0.182	0.184	0.185	0.186	0.188	0.189
7	0.190	0.192	0.193	0.194	0.196	0.197	0.199	0.200	0.201	0.202
8	0.203	0.205	0.206	0.207	0.208	0.210	0.211	0.212	0.214	0.215
9	0.216	0.217	0.218	0.219	0.220	0.222	0.223	0.224	0.225	0.226
10	0.227									

TABLE showing the distance in inches and decimals which a body falls (starting from rest) in any time from 0 to .250 of a second by .005 of a second.

SEC.	IN.	SEC.	IN.	SEC.	IN.	SEC.	IN.	SEC.	IN.
.000	.0000	.050	0.479	.100	1.930	.150	4.344	.200	7.723
.005	.0048	.055	0.584	.105	2.129	.155	4.638	.205	8.303
.010	.0193	.060	0.695	.110	2.336	.160	4.943	.210	8.515
.015	.0434	.065	0.816	.115	2.553	.165	5.244	.215	8.925
.020	.0772	.070	0.946	.120	2.780	.170	5.558	.220	9.280
.025	.1207	.075	1.086	.125	3.017	.175	5.913	.225	9.775
.030	.1737	.080	1.233	.130	3.263	.180	6.255	.230	10.241
.035	.2365	.085	1.395	.135	3.519	.185	6.609	.235	10.663
.040	.3089	.090	1.563	.140	3.784	.190	6.970	.240	11.133
.045	.3910	.095	1.742	.145	4.059	.195	7.350	.245	11.590
								.250	12.067

Mr. Stroh ("Photo News Alm.," 1889, p. 89) gives the following description of his apparatus for testing shutters:

"A drawing board AA (fig. 70), measuring about 30 by 27 inches, is covered with a paper of a neutral tint, on which is drawn with black ink a circle B, which is divided in 100 degs. In the centre of the circle is firmly fixed a steel pin, about three inches in length and ⅜ of an inch in thickness, on which fits loosely a sleeve of boxwood, which carries a well-balanced disc C, made of wood, but which could also be made of cardboard. This disc is blackened, and has one or more white lines, *c c c*, drawn on it. (These white lines might, with advantage, be replaced by well-polished wires.) The disc C runs on the steel pin with perfect freedom, and when set spinning, will keep up its movement for a considerable time.

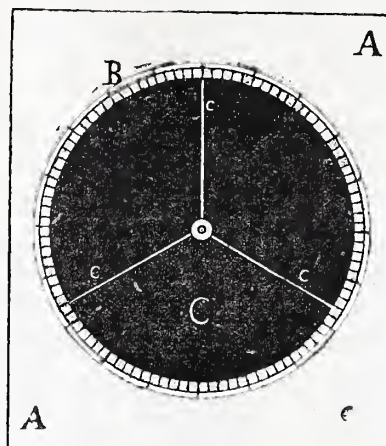


FIG. 70.

Under the disc, and near the steel centre on the board, is fixed a quill tooth-pick, so that a small pin in the boxwood sleeve touches it at each revolution of the latter, and thereby marks each rotation of the disc by an audible tick. The only other apparatus necessary is a metronome. If a shutter has to be tested, the board with its disc is placed in full sunlight, and the metronome at such a distance that the ticking of the same and the ticking of the disc, when rotatory, are heard with equal distinctness. The board and disc are then focussed as large as possible in the camera and the shutter is set for exposure. After placing an extra rapid plate in the dark slide of the camera, all is ready for action. The metronome (beating seconds) is now started, then the disc is caused to rotate, so that the ticking of the latter is quicker than that of the metronome. The operator places himself in readiness to release the shutter. As the rotations of the disc become gradually slower, there is a space of two or three seconds during which the ticking of the disc and that of the metronome are heard to coincide exactly, and during that space of time the shutter has to be released, and the exposure made. After development everything appears sharp on the resulting negative excepting the image of the white lines on the disc. These are found to be spread or widened out, and by the extent of this spreading out they indicate the length of time during which the shutter was open. If, for instance, the spreading out extends over five degrees surrounding the disc, then the duration of the exposure has been $\frac{1}{20}$ of a second. For very short exposures (say under $\frac{1}{20}$ of a second) it is better to set the metronome beating half seconds, and rotate the disc with double velocity, so as to cause the spreading out of the lines to become double in extent, and thereby facilitate measurement. In this case each division of the circle will have to be read as $\frac{1}{40}$ of a second."

Other apparatus on the same principle have also been devised.

One of the best chronographs yet invented is that devised by Mr. Wilson, of the Paget Prize Plate Co., to whom I am indebted for the following description, and prints to

* "Photographic News Almanack," 1887, p. 139, by Assam.

illustrate the same, the original article appearing in the *AMATEUR PHOTOGRAPHER*, May 3rd, 1889, p. 129:—

Most of the methods hitherto proposed for measuring the time of exposure of rapid shutters consist in photographing some moving object, the rate of motion of which is known or may be calculated, such as a hand moving round a dial, or a falling body. A blurred image is obtained, and from the length of the blur, the time during which the shutter was open is estimated.

But any such method can only give at the best an approximate result, and is liable to many sources of error. In the first place, it is by no means easy to say exactly where the blurred image begins and ends. Then the extent of the image may depend upon the whiteness or brilliancy of the moving object, the amount of light which falls upon it, and the sensitiveness of the plate used.

For take as an example a drop shutter, the opening of which is twice as long as the diameter of the lens. During about the first quarter of its time such shutter will be gradually opening and admitting more and more light, during the second and third quarters the light will be at a maximum, and during the fourth quarter the shutter will be gradually closing, and the light diminishing down to nothing. Now if the plate be not very sensitive, or the object not very strongly illuminated, it may happen that only during the second and third quarters is there light enough reaching the plate to affect it at all; the result being an image which seems to indicate an exposure of only half the real time, whereas with a better light or more sensitive plate a longer exposure would be shown. With a shutter which is gradually opening or shutting all the time it is easy to see that much greater errors might easily be made.

It occurred to me that all this uncertainty might be avoided by using, instead of the moving hand illuminated by reflected light, a powerful direct light shining straight into the lens and strong enough to affect the plate when the shutter is opened to the smallest extent, the light itself moving round a circle, for that is what the arrangement really amounts to.

In practical shape the apparatus is as follows:—On a plate of opal glass *O*, a circle about 9 ins. in diameter is painted, divided into one hundred equal parts and marked off in fives and tens. This plate, placed vertically, occupies a round hole in a wall, window shutter, or box, according to the arrangement adopted for illuminating it from behind. In the form shown at the Crystal Palace, the hole is in the front of a cubical box *B* within which the light is placed. Immediately in front of the graduated circle, parallel to and concentric

with it, is a brass disc *D* a little larger than the circle, and so arranged that it can be revolved at any desired speed by means of a pulley and cord *P* connected to any suitable small motor. In the disc is a radial slot *S*, the width of which is the same as that of one division on the circle.

Now suppose an observer standing in front of the disc, the circle being illuminated from behind. If the disc be at rest he will see through the slot one division only, but if the disc be revolving,

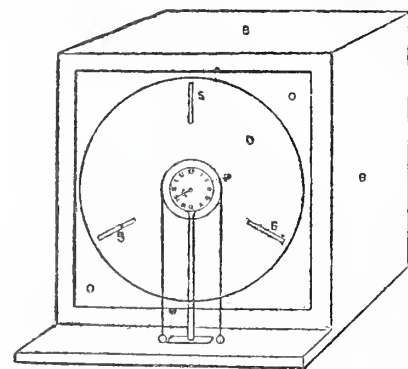


FIG. 71.

saying, say exactly once per second, each division will be seen in succession, and the whole hundred during the second, consequently each for the one-hundredth of a second.

Instead of being looked at, the apparatus is photographed in the ordinary way, the shutter to be tested being used. If the shutter open and shut in less time than one second, the whole circle will not be photographed, but only as many divisions as have been uncovered during the time. Thus if the time of exposure be one-tenth of a second, ten divisions will appear on the developed plate; if one-twenty-fifth of a second, four divisions, and so on.

For accurate reading it is of course desirable to get a good many divisions; the disc should therefore be run at such a rate as to suit the shutter; quickly for quick shutters, more slowly for slower ones.

The driving motor may be any one available, so long as it is constant; but where pressure is available, I have found nothing so simple, manageable, and uniform as a small water wheel. It may be adjusted by means of a tap to any desired speed with the greatest nicety, and will continue working at a perfectly uniform rate for hours.

In order to count the revolutions of the disc, a watch-hand revolving in front of a watch dial is geared to the spindle, so that one complete revolution of the hand indicates twelve of the disc. This multiplication by twelve happens to be a very convenient one, for in

order to ascertain the number of divisions passed by slot per second, we count the number of revolutions of the watch hand made, say, in one minute, multiply this by twelve for revolutions of the disc again by one hundred for the number of divisions in the circle, and divide by sixty for seconds. But $x \times 12 \times 100 \div 60 = x \times 20$, so that all we have to do is to multiply the revolutions of hand *per minute* by 20, and we have at once the number of divisions passed *per second*, or the denominator of our desired fraction, the number appearing on the developed plate being the numerator.

For the illuminant, either direct sunlight or that of an electric arc, if available, will answer perfectly; but what I usually employ is the much more easily and certainly obtainable form of sunshine derived from the combustion of magnesium powder. This mixed with about five times its weight of a firework composition is contained in a small pill box placed behind the opal glass, and fired when all is ready for the exposure. The light lasts some ten or twelve seconds, giving plenty of time to release the shutter.

To make a test I proceed thus. Set up camera in front of the apparatus with shutter open, and focus the divisions on plate, the camera being placed at such a distance that the circle occupies as large a space as possible on the plate. If disc be not already in motion set it going at about a suitable rate, and count revolutions of the watch-hand for one minute exactly. Set the shutter ready for exposure. Insert dark slide with plate, and draw slide. Light magnesium mixture. Release shutter. Develop plate.

For the sake of simplicity in explanation, I have spoken of only one slot in the revolving disc. There are really three, at equal angular distances from each other. This is advisable for several reasons. There is a thin upright standard which supports the disc and hides a small portion of the circle at the bottom. The driving cord also has to cross the circle. If either of these comes well within the developed image, it does not matter, as the divisions can still be counted, but if it should happen to come just at the termination of the image there may be a difficulty in reading. But as the three slots give three images, there are still two even if one be spoiled, which, by the way, rarely happens. Also as one image will always be somewhere near the top and another near the bottom any difference between the times of exposure of different parts of the plate will be evident. It is every way better for the plate that the developer should have a fair amount of exposed surface to work upon.

I hope I have now made both construction and action of the apparatus clear. If not, perhaps the annexed rough sketch will help, also copy of an actual image as it appears on the developed plate. In this case the disc was revolving twice per second, and as sixteen divisions appear, the exposure was $\frac{1}{200} = .005$ of a second. The shutter tested is an unusually efficient one, a Kershaw blind, of which the opening is about seven times diameter of lens, consequently of about $\frac{1}{3}$ efficiency. The result of this is that the divisions all develop up of equal density, except the last ones at each end. With most shutters the opening and shutting is much more gradual, the divisions are then dense in the middle, getting thinner towards each end; indicating, in fact, most perfectly the efficiency as well as time of exposure.

I have been several times asked what is the shortest exposure which can be distinctly measured; but this is merely a question of the power of the light and the sensitiveness of the plate. With a very moderate amount of magnesium there is certainly no difficulty up to say $\frac{1}{2000}$ of a second, and the shutter has yet to be made which will approach anywhere near double that exposure. But if it

were necessary to measure the hundred-thousandth of a second, I have no doubt it could be done in the same way, though, of course, not with the same instrument.

There are several other purposes for which the apparatus is available. One, to which I intend shortly to devote a little time, is measurement of the duration of flash-lights; another obvious use, if there were any need for it, would be the measurement of "persistence of vision," and dependence of same on brilliancy of illumination. Scientific readers, if they have honoured me so far as to peruse this, will, no doubt, see other ways in which the principle may be used to aid the march of civilisation and glorification of photography.



FIG. 72.

How I Started a Successful Society.—VI.

BY A PROVINCIAL.

(Continued from page 240.)

HAVING brought this chronicle down to where I describe the manner in which we catered for our members, I pass on to the important subject of recruiting.

In the early days of a young society it is of paramount necessity that an active propaganda be intelligently carried on. The uninitiated may think it a very easy matter to obtain the attentions of such as are likely to become members, but those who have had experience know how exceedingly hard it is to spread a knowledge of anything in even a comparatively restricted district; specially is this the case where there is little or no money available for advertising purposes.

The surest and most rapid way to obtain recruits is by means of personal canvassing; I feel sure that in our own case without resorting to the above measure our numbers would not be half what they are. No doubt to some people it may seem somewhat *infra dig.* to go about touting for members and vaunting the advantages attaching to a new society which has yet to win its spurs. But a little reflection will convince all that, so far from its being bad form to do so, it is quite the reverse. If we think a photograph society a good and useful institution there is no possible reason to shrink from making its existence known to our friends and neighbours; on the contrary, we ought to take credit for trying to induce amateurs to participate in the benefits such an association can bestow. There is surely enough of evil (not to speak of crushing tedium) encompassing most people's work-a-day life to make the encouragement of so wholesome and so captivating an object as the study of photography not unworthy of anyone.

One delightfully charming result of recruiting is the relatively surprising number of sympathetic assurances which are evoked by writing to those who are known to be local workers; no one need hesitate to approach such on the subject, because, so far from any being likely to resent such an application, even where they cannot help by joining, they are pleased at the compliment of being asked.

Having resolved upon seeking out fresh members, the question is, where to look for them. Of course, the first thing to do is to enquire of our friends for the names of any they know who go in for photography. As most friends have short memories, it is well to keep on asking for some little time.

A search in the exhibition catalogues (that is to say, such of them as print the names and addresses of exhibitors) frequently yields a name or two of those worth while writing to. I have several times found the AMATEUR PHOTOGRAPHER'S competition lists include individuals who have become members of our society.

It is also well to apply to the editors of the technical journals for lists of local workers. I cannot of course guarantee that applicants will get them for the asking; all I can say is, that in my own case I was successful in obtaining such information. Those who are afraid of receiving a few rebuffs had perhaps better not embark upon the task of organising a society, for in trying to get help from various sources it will inevitably be found that "all prizes and no blanks" will not be the rule. Another very fruitful field for digging up local photographers is the advertising column. For many weeks I regularly scanned every advertisement in the technical periodicals which referred to the sale or exchange of apparatus, etc., and noted all names of those whose address was in our town. To these I immediately sent particulars of our society, including a printed list of the executive and a copy of the rules.

After a while when the society has become an established local institution the recruiting will to a large extent work automatically, but it is well not to relax from one's efforts in seeking out fresh supporters for a considerable time. Not long since, in the report of a society which has a tolerable number of members, credit was taken that the new ones exceeded the resignations during the year. The former numbered the meagre total of four! In our own case for the present year I may safely say our additions will total quite ten times the above, simply because our executive make a point of being always on the alert for new men.

Passing on to the subject of advertising, it is by this time a mere truism to say that money judiciously spent on this item is always well laid out. So, anyway, thought we; and the main form in which we applied this principle was by the publication of weekly announcements in the local prints of our fixtures and the subjects for consideration at them. By arranging for a series of not less than thirteen weekly displayed advertisements, we were able to get them done at about half the usual rate for a single announcement. The outlay was therefore not very enormous, and apart from the advantage accruing through keeping the society *en evidence*, the announcements are useful reminders of the meetings to members.

There are, in addition to the above, certain minor forms of advertising which should not be overlooked; thus the meetings should be regularly announced in the technical journals, should be posted on a notice board outside the society's meeting room, and, where possible, a printed form with the name of the society "writ large" should have the subject of the next forthcoming meeting filled in, and a copy shown at suitable places in the district, where photographers "most do congregate."

Coming next to reporting, possibly a few societies will have in their ranks quite an army of amateur journalists; in which case they are "thrice blessed," providing the said scribes do not come to loggerheads, with each other, which, remembering the proverbial irascibility of photographers and also of writers (for which latter consider the cases of Carlyle or—making a big jump down from the sublime cynic—the portrait from life in "Mary Jane Married," or nearly every respectable author you can think of) is by no means a very distant possibility.

In our own case the *cacœthes scribendi* has not broken out; indeed, it is no more developed than the love of oratory; hence our reporting is not a model worthy of imitation. In point of fact, it is practically all done by one individual, which is certainly somewhat to be deprecated; it is hard work writing from twelve to twenty reports a month, and, besides, they are lacking in variety; moreover, members are apt to suffer, or to fancy they do, which is much the same thing, by the accidental omissions or commissions of the literary member.

In some cases, in order to minimise labour, what are known as "flimsies" are made use of by the reporter; these are manifold impressions done on thin paper. Whenever it is avoidable, my advice is, don't use the above; in the first place remember journals are not purely philanthropic institutions, greatly as they help societies, and a specially written report is probably the only return which most societies can offer the technical Press for help given in many ways. Another consideration is that in the busy season the available space in journals is so small that very often the whole of an interesting meeting's proceedings cannot be squeezed into any one notice, but by judiciously slicing up the information, and spreading it over two or more periodicals, one may get it all published, and do the papers a good turn as well, because members get into the habit of taking in several of them in order to read what is written in the various accounts about their association. Besides the foregoing objections to "flimsies," their illegibility is very much against them.

It may not be amiss if I here add a few hints for the benefit of the amateur reporter.

Take short notes of the salient points during the meeting. A reliance on unaided memory is unadvisable, especially when technical matters abound and when various names have to be worked in. It is best to adopt some approved stereotyped form (see reports of societies' meetings in this journal), and stick to it as far as possible. Don't fill out your report, but make it short and clear; at the same time don't omit to mention members and others by name where suitable opportunity occurs. The neglect of this detail is at times the cause of considerable heart-burning, which may either take the form of a flare-up, or smoulder on as a hidden fire of discontent. Because members tell you they "don't care a straw" whether they appear in print or not, be none the less vigilant on this point. It is needless to dwell on the necessity of impartiality, because all of my readers can appreciate its value, and because I think there are very few people who are consciously unjust, unless it be some occasional members of the "mediocrity" who impute partiality to those who have the responsibility of distributing the good things. Although there is no call to say write clearly and on one side of the paper, it is decidedly necessary to dwell upon the virtue of promptitude. Editors do not like stale news, nor are they fond of eleventh-hour communications.

Quarterly Examinations in Photography.

Question 1.—Give practical instructions for testing a lens, utilising such apparatus as an amateur may be supposed to have at hand.

ANSWER.—(a) To test the focal length or equivalent focus of any lens, the following formula will be found to be the simplest:

p = distance from lens to object.
 p^1 = distance from image on focussing screen to lens.
 f = focal length.

$$\frac{1}{p} + \frac{1}{p^1} = \frac{1}{f}$$

For example, suppose $p = 20$ feet, $p^1 = 9$ inches.

To find f :—

$$\frac{1}{240} + \frac{1}{9} = \frac{1}{f}$$

$$\frac{9 + 240}{2160} = \frac{1}{f}$$

$$249f = 2160$$

$$f = 8.6 = \text{focal length.}$$

(b) Lenses sometimes suffer from a defect known as "spherical aberration," which is caused by the inability of the lens to bring accurately to a point all the rays which proceed from the corresponding point of the object. The simplest test for spherical aberration is to cut out a small square or figure from some opaque substance such as a piece of black paper. Paste this either on a piece of frosted glass or sheet of paper. Now strongly illuminate the glass or paper so that the contrast between the small figure and the surface shall be very strongly marked. Focus the image carefully without putting in any stop. Now note the definition *very carefully*, and while doing so put in your smallest stop. If there is *any* increase in sharpness of the image, the lens is not properly corrected for aberration.

(c) Another defect from which lenses suffer is what is called "curvature of the field." This is caused by the circumstance that the plate upon which the image is formed is flat, and cannot include all the foci formed by the lens, because the oblique pencils of light which pass through the lens are brought to a focus at a less perpendicular distance from it than are the central ones.

A simple experiment to test a lens is to focus a large chess board, when, if the centre is accurately in focus, the marginal ones will be ill-defined if the lens is improperly corrected.

Correction is made by combining proportionately curved converging and diverging lenses, and by the use of diaphragms.

(d) A simple experiment to determine the depth of focus of a lens, which is the range in a perpendicular direction from the lens, within which all bodies are equally well focussed, and at the same time to test whether the "visual and chemical foci" coincide, is to arrange a number of squares of cardboard with figures printed on them, one behind the other in the shape of a wedge, with spaces of some small distance, say $\frac{1}{2}$ in., between each. Now fix the camera in such a position that the slope of the wedge may be inclined to the axis of the lens, and accurately focus one of the central numbers on the ground glass. Observe the other numbers, both those in front and those behind; they will gradually decrease in definition as their distances from the number focussed increases. The perpendicular distance between those which are well defined gives the depth of focus.

Now to test the chemical focus while the camera is in this position, expose and develop a plate, and note the numbers again. If the one which was previously focussed comes out with the best definition, both foci coincide, but if some other number shows out better, that is the position of the chemical focus, and hence its distance from the visual focus can be found.

(e) Another kind of aberration is that due to the thickness of the lens, commonly called distortion. To test a lens for this defect which ought only to occur in single lenses, focus a square and note the shape on the screen. If the lens is not corrected, the side of the square will bulge out like a barrel if the diaphragm is between the object and the lens, but if the diaphragm be between the lens and the screen then the sides will curve inwards.

(f) To find the aperture of a single lens, one may take it as the diameter of the diaphragm, but in doublet lenses this is not quite correct.

Place the screen at the equivalent focus and put in a stop, now remove the screen, and in exactly the same position put an opaque piece of card with a pinhole pierced through it. Strongly illuminate this hole by putting a good light behind. Then look at front of lens, and an illuminated circle will be seen. The diameter of that circle will be the available aperture with the given stop.

THEO.

Question 3.—Define the term "fixed focus." Is this a possibility? And explain the method of determining the fixed focus of a lens.

ANSWER.—The term "fixed focus" is applied to the distance between the optical centre of a lens and that plane in which all objects beyond a certain distance will be in focus. Strictly speaking, this is an impossibility, as objects at various distances from the lens will, in accordance with a well-known law, have their conjugate foci in different planes. For practical purposes, however, a lens of short focus may be worked to give fair rapidity, and, at the same time, owing to the comparatively small size of the aperture, to give a very fair approximation to a fixed focus. As the depth of definition depends on the size of the aperture, it follows that a long-focus lens, used in the same manner, would be impracticably slow.

The following formula is a method of obtaining the "fixed focus" of a lens :—

$$\frac{f \times d}{c} + f = o,$$

in which f = equivalent focus of lens,

d = diameter of aperture or stop,

c = diameter of disc of confusion, or maximum of diffusion allowed (generally $\frac{1}{160}$ in.),

and o = distance of object, which, if sharply focussed, all objects beyond half that distance will be sharp within the limitation of c .

FLARE SPOT.

CARFAX.—(1) Your statement that an "objective should have an angle of from 60 to 90 deg." we do not agree with. Some of the most pleasing artistic results are obtained with an angle half what you state. It is advisable when testing for flare to expose on a somewhat dark subject, which has, however, very brilliant lights in it, or else expose on the sky. (3) Your method of finding the fixed focus is that for finding the equivalent focus, and is hardly what is meant by the term. See the published answers.

FALK.—(1) You give no test for flare-spot, and you say measure the focal length from the lens, what part anterior, centre or posterior surface, and it is not necessary to divide the distance between lens and screen by diaphragm diameter to determine the focal length. Your method of finding the comparative speed of stops is not necessary for testing a lens, and would hardly work where the full working apertures of the lenses were not known; for instance, suppose you used two lenses, one at $f/11$ and the other at $f/32$, and did not know the full working aperture of lens, how would you, according to your method, find the relative exposures? (3) A fixed focus is a theoretical impossibility. Your calculation, too, is theoretically right, but practically wrong; half the distance you give is right; divide your results always by two, and you will not be far out.

C. H.—(1) Your test for flatness of field is not correct, because of the varying distances of natural objects; nor do you state what part of single lens to measure for the focal length.

BURY.—(1) Surely the front surface of a single lens is the correct point to measure focal length from? (3) Fixed-focus lenses are not specially constructed; every lens is a fixed-focus lens, in accordance with your definition. What we mean is, you imply some special form of construction as giving a fixed-focus lens. This is not so.

ENALOF.—(1) Your answer is marred by the recommendation to use trigonometrical tables, which are hardly likely to be found in every amateur's library, and your definition of flare-spot, though scientifically correct, would fog many a beginner's mind.

THEO.—(1) Your calculation of focal length was wrong. We correct. (3) You have hardly grasped "fixed focus." See note above to Bury.

AGUESCO.—(1) In your test for achromatism you do not note that the plane of focussing screen and plate must accurately coincide, which is best done by focussing on a ground glass in the dark slide. Distortion of perspective is entirely dependent on the point from which print is viewed.

GLOSTER.—Read Rule 2 of syllabus, "*All answers must be preceded by question.*" (1) To find the focal length of a single lens, the optical centre of the lens is the correct point to measure from, not the diaphragms.

PEN.—(1) You disregard the condensation of light by front lens in doublets, when calculating ratio apertures.

BREYR.—(3) There are easier methods of determining the fixed focus than the one you give, which necessitates testing for each diaphragm.

BRUM.—(1) You omit instructions for testing focal length, ratio apertures, spherical aberration, etc. (2) You should have immediately applied to the examiners for a fresh plate; one will be sent on to you.

LIVAR.—(1) See note to "Pen," above.

MONDS.—(3) Salomon's table is incorrect, but this is no fault of yours.

CRRW.—(1) Your answer is a model of brevity, but it is too condensed to be intelligible to a beginner, and you cannot test an unmounted lens as you state.

FLARE SPOT.—(1) To test for the fault of your *nom de plume*, it is advisable to focus on a subject either with extreme contrasts or else brilliantly lighted, not as you suggest, on an evenly-lit subject. (3) When using mathematical formulæ an example should always be worked out, as mathematics are Greek to many.

MC.—(3) Your answer to this question is hardly explicit enough.

G. W. G. M.—(1) You entirely disregard focal length and aperture.

THE PARD.—(1) Your test for focal length would not give anything like practically correct results. (3) You do not state how to determine the nearest point in focus. Please send name and address.

Note.—Any answers to above questions received after the publication of above will be disqualified.

QUESTIONS.

(For Questions 10, 11, and 12—latest day for Answers, Oct. 19th—see last week's issue.)

13.—Forward a lantern slide from the negative (Question 2) in your possession.

14.—Describe the production of a carbon print with matt surface.

15.—Write a short history of colour-sensitive photography.

Latest Day for Answers, October 26th.

RULES.

1. Answers must be received on the date stated each week in the AMATEUR PHOTOGRAPHER.

2. All answers must be preceded by the question, and should be written on one side of the paper only, and each answer must be on a separate sheet or sheets.

3. A *nom de plume* may be used, and must follow every answer, and be affixed to every specimen of practical work.

4. Answers are not limited in length, but preference will be given to concise answers without unnecessary amplification.

5. Those desirous of competing must apply to have their names entered. As these examinations are intended to encourage the study of the theory and practice of photography, authorities upon photographic matters and contributors to the photographic journals will not be allowed to compete.

NOTE.—No information of any kind will be given to competitors, and nothing but the answers must be included for the examiners. All other communications must be addressed to the Editor.

Marks will be given for all answers, and, when possible, the three best answers will be published. The answers will not be published till the week following receipt of the same, and the examiners will criticise each answer sent in, and when no satisfactory answer is received, will supply one. Three prizes will be awarded at the end of each quarter. (Full syllabus on application.)

All communications to be addressed to:—"EXAMINATION DEPARTMENT," AMATEUR PHOTOGRAPHER, 1, CREED LANE, LONDON, E.C.

Notes from the Liverpool Centre.

(BY OUR DISTRICT EDITOR.)

BEFORE passing on to the chief feature of my contribution this week, I had better perhaps fire off one or two preliminary shots. First, Mr. G. E. Thompson has made a striking success with his latest lecture, "The Stone Age of the Passion Play." It is to be repeated soon and often. Also in the lecture line, Mr. Paul Lange a few nights ago gave his "Iceland" to a large and fashionable audience at Blundellsands, an aristocratic retreat a few miles from the city. He is to give "Norway" at the same place in a week or two. Our next big lantern night in Liverpool is fixed for the 29th inst., when Mr. Charles W. Hastings, of the AMATEUR PHOTOGRAPHER, is to submit prize slides. A special room has been engaged for the occasion, and a large attendance is being provided for.

In regard to a new photographic news sheet, I learn from some of our leading workers up north that its childish and equally unfounded animadversions are not at all relished. A copy of the first issue has been kindly forwarded to me. In this I find a marked paragraph referring to notes from this centre. I am a busy man and a journalist; if the persons responsible for the alleged new photographic sheet were either busy men or journalists, I might pause to cross swords with them. As it is, I refuse to revert further to the small-minded vapourings and jealousies of pseudo-professional scribes.

But to the matter chiefly in hand this week. It is that a series of seventy-seven slides of the Yosemite Valley prepared by members of the California Camera Club has during the past few days been received by the Liverpool Association. I have had an opportunity of going through the slides, and must say that they are both representative and exhaustive. A blue tint in slides No. 76 and No. 77 is due to a film of gelatine, and the operator is warned to remove them from the lantern as quickly as possible, as prolonged exposure to the intense heat would cause permanent injury. This fact will no doubt be remembered by the various societies to which the Yosemite series will be entrusted during the round of Great Britain. There are also other instructions enclosed with the slides which I need not mention here.

It appears that the Yosemite Valley series has been sent out in succession to "Glimpses of California," prepared and circulated by the members of the Pacific Coast Amateur Photographic Association in 1889, and in which latter series the Yosemite Valley was not included. Of course, the valley is very picturesque and prolific in photographic studies. As the bird flies it is 150 miles east from 'Frisco, but by the shortest travelled route, 250 miles; when discovered in 1851 it was two weeks' journey from 'Frisco; now, owing to greater facilities for travel, it can be reached in two days. Really there are only two routes to the valley, but these are varied "so as to impress people that there are more." From Oakland the first 200 miles are covered by rail, usually in the night, to either Milton or Raymond, the former place lying a little north-westerly, and the latter a little south-westerly of the main object. The lecture commences by ferry-boat to Oakland—after the seal of the California Camera Club is shown. Then follows a charming route excellently illustrated. To the east are the Contra Costa Hills, with a long continuous line of cities and towns stretching at their base. On the west is the "many-hilled city," with the Mission Hills in the background, the Sausalito Shore, and the crowning glory of the Marin Hills—Mount Tamalpais. Then follows a panorama of islands, fortifications, light-houses, and water craft of all kinds, from a modern man-of-war to a Chinese junk. Among many big trees the "Father of the Forest" (5) is shown—110 feet in circumference, and estimated to have reached 400 feet high before it fell. This and other tree studies in the collection should be

carefully examined. The "Wawona" (11) is 83 feet in circumference at the ground, and a tunnel through the trunk allows the largest coach to pass through; the "Grizzly Giant" has his lowest limbs 150 feet from the ground, and measures 18 feet in circumference. Slide 16 shows the valley from Inspiration Point—a fine bit of work. Then come "El Capitan" (17), standing 3,300 feet above the valley floor; "Ribbon Fall" (18), also called the "Virgin's Tears," the highest in the world; the "Three Brothers" (23), a spur with three crests between "El Capitan" and "Yosemite Fall," "Yosemite Fall and Yosemite Point" (24), (25), (26), (27), (28), and so on, and so on. Nature majestic, formidable, and divine is unfolded with every picture. The series will no doubt prove a great attraction throughout the various societies of the kingdom. As for the descriptive matter, it is admirably arranged and, most excellent feature, type-written. Under "Cues to the Lantern Operator" occurs this: "The figures in brackets after each slide, etc., indicate about the number of words in the lecture before the cue for the next slide will be given." Then follows a list of the slides, opposite to the number of each of which are the few words of the lecturer to be spoken immediately before a change of picture is required. There are also "cues to janitor," such as "Darken the hall on hearing the words, 'Prompted the California Camera Club;'" light up on hearing the words; "Untrodden heights of the distant Sierra," etc. Everything is thus perfectly plain and easily understood. The quality of the descriptive matter is in some places very fine, and all through it is unusually graphic.

I learn that Mr. Paul Lange's "Iceland" lantern lecture is being eagerly sought after from all quarters. Up to date it has been secured for upwards of a dozen different centres throughout the kingdom. We in Liverpool and neighbourhood know it well, and it will be nowhere more highly appreciated or more keenly relished than it is here.

Here is a rather good and at the same time an amusing story told me by a leading member of the Liverpool Association who has lately been on a holiday jaunt through Belgium. One of the guides recommended a visit to La Roche, and my informant and his friends went to that picturesque spot. At the hotel, the proprietor of which is also Burgomaster, they were served with a decoction called beer, but which I am told proved to be a mixing of flat, common ale, water, and tobacco dust. It was laid on *ad lib.* at every meal, and had the virtue of driving the party away from La Roche in double quick time. Moral: British photographers should not drink Belgian beer. It is worse than the Irish whisky of the torchlight procession or chain lightning order.

Mr. Talbot Kelly, the artist, who went with the photographic party to Iceland last summer, and who is successful in nearly all the big art shows up and down the country, finds photography very useful in several branches of his profession. I mention this because Mr. Kelly is not unknown to readers of the AMATEUR PHOTOGRAPHER, and just now he is before the Liverpool public with excellent Eastern and Iceland studies in our great autumn show.

It has been decided to recommence the practical demonstrations at the Liverpool Association's rooms on Wednesday next, 14th October, when Mr. Geo. Thompson, President of the Birkenhead Photographic Society, will illustrate the "Making and Toning of Transparencies." Later in the session Mr. Edwin Banks, a photographer of long experience, will give two lectures on various phases of photography. The new rooms of the Liverpool Association are not yet decided upon, but it is expected that the locale will be definitely determined shortly. I may add that recently Mr. Lange has been presented by the members of the Society with a pedometer, Mr. Tomkinson with an aneroid, and Mr. Stainstreet with a Taylor lens in recognition of their services at the late successful Liverpool exhibition. The Association is also sending 120 slides, contributed by best workers, for exhibition at the Fall Mall show.

At the Liverpool Y.M.C.A. Camera Club next Wednesday, Mr. A. M. Tunstall, Hon. Sec. of the Liverpool Association, is to give a demonstration—"Lantern-Slide Making." Early in December Mr. Tunstall is to give his "Normandy" before the same Society.

This week the Walton Photographic Society at the ordinary monthly meeting had a new member to elect. The business also included a lantern evening and exhibition of members' slides.

Riddle.—What is the difference between professional and amateur photographers? Answer: An amateur photographer takes people as they are, and a professional photographer takes them as they would like to be.

Apparatus.

WORMALD'S NEW LANTERN-SLIDE PRINTING FRAME.

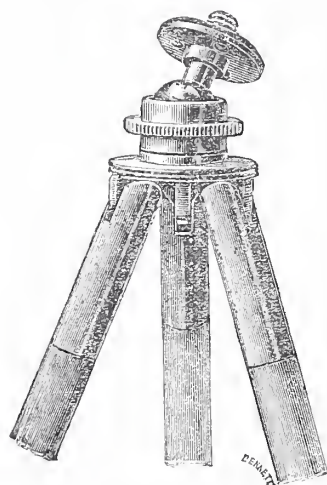
We have before us a specimen of a new frame (for which Mr. Wormald, Sutton, Surrey, has applied for a patent), which will be found most useful and effective by those who during the coming winter propose to devote themselves to lantern-slide making. The size before us is for use with half-plates and smaller sizes, and is so constructed that a lantern-slide can be made from any portion of the negative, which can be absolutely fixed, so that, if desired, several slides can be made from it without fear of the negative moving. The latter point is extremely important where separate negatives have to be used for the clouds. The working of the apparatus is very simple. The component parts are a cloth-lined tray, large enough for any portion of a half-plate negative to be placed over the $3\frac{1}{4}$ by $3\frac{1}{4}$ in. central opening, at the outside of which there is provision made for placing a piece of plain glass with a mask on it when desired. Upon this the negative is placed with the portion desired to be printed over the central opening. Over this is placed a wooden cover with a corresponding $3\frac{1}{4}$ by $3\frac{1}{4}$ in. central opening, in which the lantern plate is placed. Finally, the back is put on, and the exposure can be proceeded with. To remove the plate, it is only necessary to remove the back. We can cordially recommend the frame to all lantern-slide makers.

WORMALD'S STEREOSCOPIC MASKS.

We have also received some excellent black paper stereoscopic masks for glass transparencies, and some stereoscopic card masks for paper or celluloid transparencies. They could also be used as cut-out mounts for stereoscopic prints, which have several times been inquired for by our readers.

PARK'S LIGHT BAMBOO STANDS.

Mr. H. Park, of 5, Station-buildings, Acton-street, Kingsland-road, N.E., has sent us one of these stands, which is substantially made, and at the same time as light as can possibly be desired.



As indicated by the name, the legs are of bamboo, of various thicknesses according to the size of the camera to be used, with spikes at one end and a metal top at the other. The top may be either rigid, and with ball and sockets, easily adjustable, and so constructed that the ball and socket can be removed and the stand can be used as an ordinary one. The diameter of the largest size head is 3 in., the length of the legs 47 in., and the weight, with rigid head, 20 oz., with ball and socket head 25 oz. The price of the former is 7s., and the latter 11s.; while a stand with a rigid head 1 in. diameter costs only 5s. 5d. If

desired, the legs can be supplied in two pieces with a screw joint.

COLOURED LANTERN-SLIDE MASKS.

Mr. C. C. Vevers, of 12, Market Street, Leeds, has sent us a sample box of the coloured masks which he cuts with a new machine just laid down. There are ten colours, and as the masks are of various shapes they will meet a want, by enabling one set of slides to be easily differentiated from another. Mr. Vevers is also supplying coloured binding strips. The price of both articles is very moderate, a box of sixty masks being sold for sixpence, and the box of 100 binding strips for the same price. Twopenny packets of the masks can also be obtained.

CAMERA CASES.

Mr. Adams, of 4, Hatton Yard, Hatton Garden, supplies admirable camera cases in either waterproof cloth or solid leather, and at a price which makes it worth while to inspect his stock before going elsewhere. In the cloth a quarter-plate case costs 5s. 6d.; a 10 by 8 10s. 6d. In solid leather a quarter-plate runs to 6s. 6d., and whole-plate to 10s. 6d.

Exhibitions.

AMSTERDAM INTERNATIONAL PHOTOGRAPHIC EXHIBITION.

LIST OF AWARDS.

Section A (Professional).

Highest award, diploma of honour, and silver gilt medal: Lyddell Sawyer, Newcastle-on-Tyne.

Silver gilt medal: Friedr. Müller, München; C. E. Mögle, Rotterdam.

Silver medal (1st prize): W. Winter, Derby; W. Byrne, Richmond; G. Greul, Mannheim; O. Anschütz, Lissa; Emrik and Binger, Haarlem; R. Paulussen, Vienna.

Bronze medal (2nd prize): Fred. Boissonas, Geneva; Saly E. Straus, Cologne; L. Kurtz, Wiesbaden; Gebr. Frohn, Deventer; Anselm Schmitz, Cologne; H. Tollens, Dordrecht; Angerer V. Göschl, Vienna; Roeloffzen and Hubner, Amsterdam.

Honourable mention: Rad. Schuster, Berlin.

Section B (Amateur).

Highest award, diploma of honour, and silver gilt medal: Lentz, Maestricht.

Silver gilt medal (given by the Exhibition Committee): Bucquet, Paris.

Silver gilt medal (given by the Haarlem Amateur Photographic Club): Motto, "Voorwaarts," Hassely Kirchner, Baarn.

Silver medal (1st prize): W. C. Clement Williams, Halifax; Dr. Kühn, Innsbruck; A. Lunden, Antwerp; W. Tousaint, Amsterdam; F. P. Cembrano, Richmond.

Bronze medal (second prize): A. Bakhuis, Olst; Jonkv. van Oldenbarnevelt, Utrecht; A. Tagliaferro, Malta; John E. Austin, Maidstone; J. J. M. Guy de Coral, Amsterdam; Martin J. Harding, Shrewsbury; C. Court Cole, Oxford; Van Barneveldt van Matthena, Velp; L. Keuters, Antwerp; J. J. Kamp, Amsterdam.

Honourable mention: Baron Marq de Tiège, St. Trond; A. Alfarado, Paris; Haarlem Amateur Photographic Club (collection by); L. J. Smit, Kinderdijk; J. C. Wolterbeek, Amsterdam; G. Peck, Amsterdam; A. W. Gottlieb, Shrewsbury; G. P. Voorwijk, Amsterdam.

Section C (Apparatus).

Highest award, diploma: Loman and Co., Amsterdam.

Silver medal: C. Zeiss, Jena; W. Watson and Sons, London.

Bronze medal: Meinard van Os, Amsterdam; H. Mackenstein, Paris; B. J. Edwards and Co., London.

Honourable mention: Anton N. Bouvy, Amsterdam.

The Judges were: Fritz Eilender, Cologne; Jozef Israels, The Hague; Dr. J. van Geuns, Amsterdam; Dr. Wertheim Salomonson, Amsterdam; Charles W. Hastings, London.

Societies' Meetings.

Bath.—On the 30th ult., the Society, by kind permission of the Prior, was afforded an opportunity of visiting and photographing at the monastery of St. Gregory, Downside, near Chilcompton. The party reached the college gates about midday, when work was at once begun in earnest. This extensive pile of buildings, by no means completed, comprises a large priory church, monastery, and numerous other buildings, such as swimming baths, masters' residences, etc., which are excellent specimens of early English style. They are approached from Stratton-on-the-Fosse by a pleasant carriage road, and at almost any point present a picture suitable for the camera. The guide-books inform us that the Order settled in this country about 1793, and in 1814 commenced the construction of this establishment, which is destined to be one of the finest in the kingdom. The work is being carried out by the monks themselves, without a contractor, and no pains have been spared to make every detail thoroughly harmonise, and make the structure as solid as it is beautiful. The transept of the church is completed, and is now used for divine worship. The lady chapel and a series of small private chapels are in course of construction, and the choir, which is to connect the transept with these, will, it is hoped, be shortly commenced. The noble proportions and rich detail of the church were photographed by some twenty of the party. This is the last excursion of the season, and, thanks to the glorious day and excellence of the subjects presented, formed a capital wind-up to the summer work of the society.

Birmingham.—It has been arranged to hold a series of meetings during the winter months, with papers and demonstrations, for the

benefit of new and less advanced members, of an elementary and popular character. The first of the series was held on the 6th inst., when Mr. J. Simkins gave a most instructive paper on "Exposure." A discussion followed. The subject for next meeting is "Development."

Cromwell.—On the 29th ult. a number of gentlemen interested in the art of photography assembled at the Cromwell Hotel for the purpose of forming a photographic society for the promotion of art in Yarmouth and neighbourhood. After a preliminary discussion it was proposed to form a society, to be called "The Cromwell Photographic Society," with headquarters at the Cromwell Hotel. Mr. R. H. I. Palgrave was elected President; Dr. John Bately, Vice-President; Mr. T. W. Swindell, Treasurer; and Mr. C. Rumbold, Hon. Secretary. The following Committee was also elected, viz.:—Messrs. H. Peehy, G. Waller, jun., T. Goate, J. Williment, Leech Chamberlain, and Dr. Grenfell. The Society is happy in having for its home the Cromwell Hotel, not only from its being in a central position, but from the fact that the proprietor has had a dark-room specially constructed for the use of photographers. This will be a special convenience for the members of the Club, and will also be open to visitors to the town. It is proposed to hold monthly meetings during the winter months at the Society's *rendezvous*, at which all matters of interest to the members, and to photographers generally, will be discussed, and it is also contemplated to give demonstrations in the art, and to hold exhibitions of members' work and other items as occasion may suggest. The fee for membership has been fixed as low as possible, in order to give all an opportunity of joining.

Groydon Microscopic.—The ordinary meeting was held on the 2nd inst.; the chair was taken by Mr. J. Weir Brown, who read a brief paper in which he met objections, recently raised, and referred to articles which had appeared with respect to the "uranium toning of bromides," and gave the results of his later experiments. This paper will be communicated to the photographic Press in due course. Mr. W. Low Sarjeant exhibited a cardboard double-back for films, which weighed when loaded 2½ oz. He also mentioned that in a recent tour on Dartmouth, on opening a packet of films, flashes of light were visible when he separated them; query—was it due to electrical discharge, or phosphorescence? He feared that when he developed them they would be streaked. Mr. E. Marriott then read an interesting paper on the use of "Gelatin-Chloride" printing-out papers. He treated the subject exhaustively, gave details of printing, toning, fixing, and mounting; and he recommended the use of the combined toning and fixing bath given by Mr. Tylar in the "British Journal Almanac" of two or three years ago. He showed how the most polished surface or the finest matt could be obtained, and exhibited a large number of fine specimens, on eight different makes of paper, mounted in almost every conceivable way. It was called, from the ease of manipulation, the fineness of detail, and the beauty of the tones obtainable, "the paper of the future." Most members had found difficulties in mounting, and the merits of starch, india-rubber dissolved in wood-naphtha, gum-arabic prepared with alcohol, and glue prepared with methylated spirit were advocated. The paper and discussion were most interesting and instructive to the large number of members present. Hearty votes of thanks were accorded to Mr. Marriott and the Chairman. The next meeting, October 16th, will be a lantern-night—members' slides trial night.

Devon and Cornwall.—The annual general meeting was held on the 5th inst. Mr. Tweedy, as Vice-President, occupied the chair. The Council's report for the past year was read and approved. The following were elected officers for the ensuing year: President, Mr. Robert Burnard; Vice-Presidents, Mr. W. S. Tweedy and Major R. Barrington Baker; Councillors, Dr. Aldridge, M.D., Mr. J. S. Hawken, Mr. E. H. Micklewood, Mr. David Roy, Mr. A. R. Norrington, Mr. W. Square, F.R.G.S., Captain Waye, R.N., and Colonel Stewart, R.E.; Hon. Treasurer, Mr. A. A. Carnell; Hon. Secretary, Mr. R. Handsforth Worth; and Hon. Auditor, Mr. W. Luxton. A vote of thanks was passed to the officers for their services during the past year. The club meets at the Athenæum on every alternate Monday evening at 7.30 p.m., during the winter session, commencing on October 5th.

Formby.—At the meeting on the 5th inst. there were a number of prints, and slides of views taken during the summer excursions, and it was agreed by all that the practice they had had, and the mutual good-fellowship brought about by interchange of ideas, had made these excursions a decided success. The prints were handed round for inspection, and a marked improvement was noticed in the finished work of the members; the slides were passed through the lantern by Mr. Mason, and were much enjoyed. After arranging a programme for the winter season, the proceedings terminated. The Rev. W. Elstob (the President) occupied the chair.

Hackney.—The ordinary meeting was held on the 1st inst., the President in the chair. Messrs. W. P. Dando and Augustus W. Wilson were nominated for membership. Being an evening set apart for the exhibition of members' lantern slides, a number of ladies were present. The following members handed in slides, which were put through the lantern by the Hon. Secretary;—Messrs. Lodean,

Gosling, Dean, Carpenter, Dando, Poulson, Herbert Smith, Grants, Barton, and the Hon. Secretary.

Holborn.—At the meeting on the 2nd inst., Mr. A. Raphael in the chair, Mr. E. H. Bayston opened a discussion on "Negative-making," illustrating his remarks with various negatives. A long and interesting discussion ensued, especially with regard to the various developers, in which Messrs. Brocas, Golding, Dear, Luxton, Cobb, and the chairman took part. A special night was made of the 3rd inst., when a lantern show and musical entertainment was given by the members of the club in the rooms of the Holborn Cycling Club. The rooms were prettily decorated with flags and flowers, and a very pleasant evening was spent by those present. The slides shown were mostly views of the Southern Counties Cyclists' Camp this year at Dorking, from negatives taken by members of the Camera Club.

Lewisham.—At the meeting on the 2nd inst. there was a very large attendance; and among the visitors who received a very enthusiastic welcome, were Mr. Traill Taylor, editor of the *British Journal of Photography*, the old professional Mr. Henderson, and Mr. John Stuart, of Glasgow (who received a special medal for his flashlight studies at the Glasgow Exhibition, a splendid collection of which he brought with him to the meeting, which were very much admired). Mr. Howson proceeded with the lantern-slide demonstration, giving four of the "special" lantern plates varying exposures of 5, 10, 15 seconds to gas, and an exposure to an ordinary wax vesta, and developed all in same dish with the universal hydroquinone developer, resulting in four very similar slides.

Midland.—A meeting of the Provisional Committee was held at the Colonnade Hotel, Birmingham, on the 2nd inst. The chair was taken by Mr. Hall-Edwards. The names of Messrs. Fowler, Spurrier, W. H. Gent, and W. Bolton were added to those on the Provisional Committee. It was decided to take a suite of rooms which had been offered to the Club by the Council of Queen's College, also to put the rooms in order and furnish them by the 16th inst., when the first annual meeting of the Club is to be held. The rooms comprise a dark-room, a room for small meetings capable of seating about forty, and a smaller room, which will be used as a library and office. For larger meetings a lecture-theatre is available, which will comfortably seat 200 persons. A circular was drawn up, which it is intended to issue to all photographers in the district, setting forth the advantages which membership will offer, and inviting them to join. The Chairman announced that the following gentlemen interested in the progress of photography, and well known in the town, have intimated their intention of joining the Club:—Dr. Lawson Tait, Mr. Roland White, Mr. Jordan Lloyd, Mr. Priestly Smith, Mr. Gilbert Smith, Rev. J. Hemy, Mr. H. Leech, and many others.

Richmond.—The 2nd inst. was the first lantern night of the season; slides by Messrs. Ardaseer, Cembrano, Davis, Arthur Hunter, and Lowry were shown.

Rossendale.—The annual meeting took place on the 28th ult., Mr. Ashworth presiding. Prior to the meeting an exhibition of members' work was held, a good number of exhibits being shown. A large number of friends availed themselves of the opportunity of visiting the exhibition. The Secretary's report showed a good balance in hand. The following were elected officers for the ensuing year:—President, Mr. J. Ashworth; Vice-Presidents, Mr. John Taylor and Mr. J. H. Hargreaves; Hon. Secretary, F. G. Killingbeck, 62, Bank Street, Rawtenstall; Financial Secretary, Mr. John Riley; Council, Messrs. Heap, Booth, Duerr, and Coates.

Tunbridge Wells.—The 63rd ordinary meeting was held on the 29th ult. for the purpose of viewing the "White Mountain" set of slides, sent over by the Boston Camera Club, which were ably shown by Mr. J. W. Morgan with his biunial lantern. There was a good attendance of members and their friends. Mr. Brampton stated that these slides were a continuation of the set sent over some time since by the same society, which were of the city, these being the surroundings. There were also over forty slides of New York, Cranford, New Jersey, and district, which were brought over by Mr. W. Chamberlain, the President of the Cranford Camera Club, also some by Messrs. Lewis, Cornell, and J. W. Morgan, the whole of which were thoroughly appreciated. The lecture was read by the Hon. Secretary.

Tyneside.—The usual meeting was held on the 30th ult. Mr. McKie was elected president of the club. Mr. McKie was the founder of the first club here many years ago, and an old wet-plate hand. Mr. Rothwell was elected vice-president; he is a capital amateur worker. Mr. Rothwell read a paper on "Some Experiences as an Amateur Photographer," which was very interesting and amusing. There was a club outing on the 3rd inst. to Bywell Castle and neighbourhood. All members who were at liberty on Saturday were present. Numerous plates were exposed on the bridge, Castle, the two churches, and about the river. On Wednesday, October 14th an invitation lantern evening will be held,

To Correspondents.

All communications for these columns are to be addressed to **The Editor, "Amateur Photographer," 1, Creed Lane, Ludgate Hill, London, E.C.**

RULES.

1. Write clearly and distinctly on one side of the paper only.
2. Write each Query or Answer on a separate sheet of paper.
3. Write the name and address legibly on the back of each communication, and sign all Queries and Answers with name or *nom de plume*.
4. All matters for these columns MUST be received by **TUESDAY MORNING'S POST**.
5. The Editor does not undertake to answer questions by post.
6. In answering Queries, correspondents are requested to mention, in every instance, the number and full title of the query referred to.

QUERIES.

5106. **Transparency.**—I want to make a transparency by contact from one of my negatives, using Ilford ordinary plates. What will be the average exposure? If with Fry's lantern plates the exposure (to a paraffin lamp) was 10 seconds, what would it be with the Ilford?—**CARDONATE.**

5107. **Lantern Plates.**—Will some one kindly say whose are the cheapest lantern plates? I have a lot of slides to prepare, and price with me is a consideration.—**J. JOHNSON.**

5108. **Eastman Celluloid Films.**—I have been much troubled with these films frilling in the developer, also with their not lying flat in the developing dish. Can any of your readers indicate how these difficulties can best be overcome?—**J. F.**

5109. **Arcanum Hand-Camera.**—Would "A. B.," who recommended the Arcanum hand-camera (Talbot and Exner) in the issue of September 25th, tell me what plates he thinks best to use with it?—**LUX.**

5110. **Swan River.**—Could any reader tell me if English makers' plates and chemicals can be obtained near the above?—**COLONIST.**

5111. **Kallitype No. 2.**—Can any reader give me particulars of Kallitype No. 2? Is it worth a trial?—**GORGAN.**

5112. **Stains on Negatives.**—Could any of your readers tell me how to remove silver stains from negatives, also how to avoid them? The stains occur in all my instantaneous work. I use Ilford red label, and I should like to know the reason of it. I use the pyramonia developer as given on the box, which gives very good results with the medium plates.—**H. A. R.**

5113. **Photo-lithography.**—I want a practical knowledge of photolithography and Woodburytype process. Can any of your readers oblige me by informing where and to whom to apply?—**B. R. S.**

5114. **Toning Bath.**—I have been using the following toning bath: 90 gr. borax, 12 oz. water, and 2 gr. chloride of gold. Will any of your readers kindly say how often the above bath requires replenishing, and if borax should also be added when the gold is? Also how many sheets of paper should the above bath tone before it is unfit for use? I am a little perplexed after having toned about two sheets as to whether I ought to add borax as well as gold.—**CONFUSED.**

5115. **Print Washer, to Make.**—I want to try my hand at making a print-washer. Will some one kindly give me a few hints as to the best way to proceed? I have those given by Mr. Wall in his "Dictionary," but want something more like the regulation washers. I get into trouble through using the household colander, milk-hasin, etc., and am determined to be independent of them. No doubt those who have had a like experience will sympathize.—**K.**

5116. **Windsor Castle.**—Can any reader inform me whether I can obtain permission to take a few interiors of Windsor Castle, and what there is of interest to take round about? I should only stop a day or two.—**H. W. C.**

5117. **Hatfield.**—Can I obtain permission to take interiors of Hatfield House?—**TYRO.**

5118. **Paper.**—Where can an amateur purchase small quantities of a stout paper, such as is used for platinum, and a very thin but tough paper, such as, I believe, is used by lithographers, for experimental purposes?—**MONDS.**

5119. **Glass Positive.**—Would any of your readers kindly assist a beginner by explaining how to make a glass positive? What kind of varnish is used to make the image show itself?—**CUMBERLAND.**

5120. **Bromide Enlargement by Daylight.**—Having got Lancaster's quarter-plate camera, I wish to make a bromide enlargement from quarter-plate to whole-plate. I should be glad if some brother amateur will kindly tell me how to finish it after development, and also if it will injure the lens for taking

photographs afterwards. Any hints will greatly oblige.—**FORGET-ME-NOT.**

QUERIES UNANSWERED.

Oct. 2.—Nos. 5088, 5090, 5091, 5093, 5095, 5099.

ANSWERS.

4972. **Circular Plates of Sirtin's Secret Camera.**—These cannot be obtained in Canada, and I doubt if they can be obtained even in New York. Anthony and Co. and the Scovill Co. do not catalogue them.—**F. H. J. R.**

4994. **Watkins Exposure Meter.**—Been using one for four months on every variety of subject with unvarying success. I exposed ten dozen films by it on a three weeks' trip last month, all good. Would not be without one for fifty dollars.—**F. H. J. R.**

4996. **Montreal and New York Customs.**—Nigel will have no difficulty with the Montreal customs; duty is nine cents per square foot on dry plates. Have found N. Y. officers most reasonable in other matters.—**F. H. J. R.**

5049. **Enlarging.**—You can enlarge quite well with the Mulum in Parvo camera direct on to the gelatinobromide paper specially for this purpose. Put your negative in dark slide of ordinary camera. Insert lens in hole of Mulum in Parvo front, and put paper into the dark slide of latter, focus by racking both cameras out, and expose. If sun shines directly into room, use a piece of ground glass behind negative.—**PEN.**

5050. **Developer.**—The only thing to do is either to make up double quantity of developer, omitting the bromide, or else to give in every case a long exposure.—**OSIRIS.**

5052. **Retouching.**—If "E. L. B." will write and let me know what information he wishes, I will be glad to tell him what I can. My address is with Editor.—**LADY AMATEUR.**

5053. **Double Photography.**—The background must be either black or dark red, so that it may have no effect on the plate during exposure. A red blanket answers perfectly. The table is put in the centre, and the sitter arranged first on one side and then on the other beforehand, so that he comes well into the picture when placed on either side of the table, the background covering the whole plate. The feet cannot be taken in unless another red blanket is put to cover the ground up to the camera. The plate is now exposed with the sitter on one side, and the lens capped. Without moving the camera or table, the sitter now goes over to the other side, and the plate is exposed again. The slide is left open all the time, as the slightest movement of the camera will spoil the picture.—**BLISTER.**

5057. **Bromide Enlargements.**—I must admit that bromide rapid paper does take a time to develop, but if it is well exposed it ought not to take more than ten minutes at most. If longer, it turns the print, as you say, a grey colour. You may have given a correct exposure for what you thought a good light, but all rapid paper will not stand ten minutes' exposure in a bad light, which, I should think, is your fault.—**W. H. ELLIS.**

5058. **Toning Baths, Keeping.**—The acetate can be kept, and strengthened by adding fresh gold. It is far better, however, to keep a stock concentrated solution, and mix fresh every time.

Sodium acetate	1 oz.
Gold chloride	15 gr.
Warm distilled or rain water ..	15 oz.

Mix in a clean bottle, keep in the dark, and dilute 1 oz. with 9 oz. water (in cold weather, warm) when required for use. This will tone a full-sized sheet of paper.—**PEN.**

5059. **Washing Prints.**—Prints are not necessarily well washed by soaking all night in clear water. They lie at the bottom of the vessel in a bath of dilute hypo if they have not been previously well washed. Give them several changes of water by lifting and draining each print as you transfer it to another dish, then soak for a few hours, and again give several changes and draining as before.—**MONDS.**

5062. **Intensification.**—This method of intensification is utterly valueless; the only intensification which it effects is due to the alcohol. Silver intensification is difficult to work; stains very often appear. I hope to be able to complete an experiment with a one-solution intensifier which works well, and will then publish.—**OSIRIS.**

5065. **Acetate of Soda.**—The action of acetate of soda in the toning bath is the absorption of the chlorine set free from the chloride of gold. Excess of acetate merely means a slightly more alkaline bath and longer life to it.—**OSIRIS.**

5066. **Hardcastle's Platinum Paper.**—In reply to "Sensitized," I have used this paper for some time, and excellent blacks can most certainly be obtained with it. It has improved very much of late in quality, and I believe the price is to be lowered, if it has not been so already, making it one of the cheapest, as it is the simplest of all printing processes that I am aware of. I enclose a small print made on this paper in support of my statement regarding the richness of the blacks to be got with it.—**M. P.**

5067. **Developer.**—This is a trade secret, but it probably consists of a one-solution hydroquinone developer.—**OSIRIS.**

5069. **Drying Prints.**—Give them a bath of gly-

cerine 1 part, methylated spirits 2 parts, water 10 parts. Another way is to lay the print face downwards on a blotting pad, and place on it the edge of an ivory paper-knife, then hold one margin of the print in the left hand and draw it steadily from under the paper-knife, using sufficient pressure. Repeat in various directions till the print lies fairly flat. It is not advisable to use ordinary blotting paper, as the colour occasionally comes off the red blotting paper, and to bleach the white, hypo is sometimes used. I should advise you to get one of Wheeler's photographic blotting books, which is free from acids and other injurious chemicals. They can be obtained from most dealers, or from Geo. Wheeler and Co., 46, King Street West, Manchester.—**BLISTER.**

5070. **Toning Bath.**—If your query is correct, your fixing bath is much too strong; 2 oz. hypo to the pint is correct. Tone longer with a bath half strength of gold you mention, that is 1 gr. to 8 oz. Wash in a proper washer for not longer than six or seven hours after fixing. Longer washing is now considered to cause fading.—**PEN.**

5071. **Toning Bath to Mix.**—The gold must be added to the bath when mixed. Dissolve the gold separately and add to the bath as soon as the alkali is dissolved.—**PEN.**

5072. **To Make Toning Bath Alkaline.**—In answer to the query, you should add a little bicarbonate of soda to make the bath alkaline.—**W. H. ELLIS.**

5075. **Omnigraph Changing Box.**—My experience coincides with that of "A. Novice," respecting the changing arrangement. With this camera, nevertheless, wonderful snap-shot work may be done. I managed to improve matters a little by slightly raising at each corner the rim at the back of the sheaths under which the spring slides which keeps the plate in position, and so leaving a small space between the edges of the sheaths when the magazine is changed. The sheaths should be put into the magazine with all these rims at the end which will be at the top of the camera, so that the slide which comes behind the plate ready for exposure may slip into the small interstice above mentioned. To put a plate in position for exposure, instead of only inclining the camera, I held it lens downwards, drew the magazine slide and the camera slide, let all the plates down as far as they would go, and then pushed in the camera slide, reversed the camera, the five plates falling back into the magazine, and closed the magazine slide. You now hope you have a plate in position. The only way to make sure is to once more reverse the camera, lens upwards, draw the camera slide only, and listen for the click of the plate falling back, and then put it in position again. It is a pity that a camera having such an excellent lens and shutter should not be fitted with a more satisfactory arrangement for changing the plates. I have since got a single lens, but do not like this lens nearly so well as that in the Omnigraph, though in other respects it is a much better instrument.—**W. D. A.**

5078. **Covering Power of Lens.**—This depends upon the position and size of diaphragm, but it will cover a 12 by 10 with smaller stops fairly sharply, and probably with smallest stop, a 15 by 12.—**OSIRIS.**

5079. **Plates.**—No, not absolutely without variation.—**OSIRIS.**

5081. **Ferro-Prussiate Process.**—Use 1½ oz. of red prussiate of potash instead of 2 oz., omit the ammonium bromide, and try printing for a much longer time. Printing this paper is often a matter of hours instead of minutes.—**MONDS.**

5081. **Ferro-Prussiate Process.**—Mr. F. H. Latimer has lately published that the following formula gives blue prints with considerably reduced time of exposure:—

Solution 1.	
Ammonio-citrate of iron	120 gr.
Distilled water	35 oz.
Add ammonia drop by drop till it smells faintly.	
Solution 2.	
Ferridcyanide of potassium	100 gr.
Distilled water	35 oz.

Solution 3.
Saturated solution of oxalic acid.

Just before use, mix equal parts of 1 and 2, and to every ten parts of the mixture add from one to three parts of No. 3, filter, and coat the paper. This gives very good blue prints.—**OSIRIS.**

5082. **Negative Washing.**—Did you clear with hydrochloric acid and alum before the plates were free from hypo, or is your water very hard? In the first case a deposit of sulphur would occur, in the second time. I cannot understand the films coming off unless you cleared with acid and did not free the film from it afterwards. A one per cent. solution of hydrochloric acid will remove lime deposit. If hypo, soak in plain alum and water, and then well wash.—**PEN.**

5083. **Hand Camera.**—If "S. E. K." focuses a distant object, and marks on his camera by means of a scratch the position of the focussing arrangement, he will by this means be able to use his camera as a so-called fixed-focus one. He can easily find out by aid of the ground-glass the distance the nearest object must be to be in sufficiently good focus. The shutter of these cameras used to be a plain drop one; this could be accelerated by means of an elastic band, or a new form of instantaneous shutter could be adopted. A removable finder could be also attached to the camera. "S. E. K." would then find his camera probably suffi-

cient for his purpose; of course, a collapsing leather case like an opera-glass case could be made for it if he wished it. If he wants a new camera he would not find much difficulty in getting his lens fitted to one; there are several small portable cameras in the market.—J. G. P. VERREKER.

5084. Toning Bath.—Both are equally easy and efficient.—FRED DAVIS.

5084. Toning Bath.—I should recommend the borax bath, mixed fresh every time. It is simpler than the acetate, and gives excellent results with ready-sensitized paper.—PEN.

5085. Enlarging Camera.—You do not give the focus of your lens or the size you wish to enlarge to. Get a piece of white cardboard the size you wish to enlarge to, and fasten it on the easel; you then move the easel backwards or forwards until you have all the view on the card, focus by the rack on camera, cap the lens, place the bromide paper on the card, and expose.—A. J. SMITH.

5086. Lantern Slide Camera.—There is not the slightest need to use one for quarter-plate negatives. Print in a printing frame by lamplight, just as you would a silver print.—PEN.

5087. One-Solution Developer.—Thomas's hydroquinone developer is a good developer, but I think Lockyer's developer (one solution) is better still. I have used it for some time and have not a single fault to find with it.—W. H. ELLIS.

5089. Lantern Microscope.—I do not think "Economy" will find it easy to adapt an ordinary microscope to his lantern. I would recommend him to get one of the "Optimus" Micropono. The cheaper form costs about 18s., and he can easily adapt some of his micro lenses to it, but his will find that even limelight does not afford sufficient illumination for power higher than an inch. For these the electric light is essential. I think a supplementary condenser, between the ordinary one and the object, would be an improvement. Note—A cell containing a solution of alum is essential, or the heat will melt the balsam or other mountant on the micro slides.—G. P.

5092. Hand Camera.—Messrs. Talbot and Eams, Blackburn, can fit purchaser's own lens to either their Talmer or 1891 hand-camera; this latter has a detachable back holding twelve plates, which when exposed may be replaced by another chamber in open daylight, like a dark slide. The camera may be used on a stand with focussing screen, with long or short focus lenses, like an ordinary camera. Its size is only 5 by 5 by 9.—OXIDE.

5094. Photographing the Interior of Churches.—In answer to "Italiano," it seems to me he under-exposed his plates. I have a Wray's R.R. lens and an ordinary camera, and have had very good results. Perhaps you will be a little better if you give your plates more exposure, use rapid plates, a slow developer, and place a piece of brown paper at the back of your plate.—W. H. ELLIS.

5096. Fixing Aristotype Prints.—A fixing bath made up as follows: 5 oz. of hyposulphite of soda to 20 oz. of water, will take this paper about fifteen minutes to fix, using it quite cold.—W. H. ELLIS.

5096. Fixing Aristotype Prints.—Fix in hypo at a strength of 3 oz. to 10 of water for ten minutes. I think "Bretlaw" will get much better results if he sticks to this Aristotype toning formula, viz.:—

A.
Gold 2 gr.
Water 3 oz.

B.
Sulphocyanide ammonium 30 gr.
Hypo 1 lb.
Water 2 oz.

Take 1 oz. of each of these, and dilute in 1 oz. of distilled water.—COPTIC.

5097. Thin Negatives.—Your negatives simply need to be intensified. Any elementary manual will give you details. They are probably over-exposed and under-developed, but can be improved.—FRED DAVIS.

5098. Paper.—Aristotype paper can be obtained from J. Fallowfield's, 146, Charing Cross Road, W., quarter-plate, 9d. per dozen; half-plate, 1s. 8d. per dozen. Where to get paper to give results equal to Liesegang's Aristotype paper I cannot advise anyone. See what E. J. Wall says about it on cover of AMATEUR PHOTOGRAPHER.—COPTIC.

5100. Litmus Paper.—Yes.—PEN.

5100. Litmus Paper.—Certainly. An alkaline toning bath must, of course, discharge the acid (pink) tint of test paper.—FRED DAVIS.

5101. Bromide Paper.—Most certainly there is a difference; one sensitive side, as in all papers. If you use the smooth paper, it will be smoother on the sensitive side than the other, and will generally curl a little towards the film side. It will keep well for a long time if kept in a dry place out of the light. The length of exposure is entirely ruled by the density of your negative; 20 sec. is not too long for some. I have exposed that time to daylight successfully.—COPTIC.

5102. Paper Negatives.—Morgan and Kidd's paper requires exactly the treatment suitable for any glass plates, both as to exposure and development. They give ample directions with the paper. The negatives print better when oiled with Morgan and Kidd's medium, but they will do very well without it.—FRED DAVIS.

5102. Paper Negatives.—My experience of paper negatives is confined to Eastman stripping films, but I

should think that Morgan and Kidd's films could be treated in a similar fashion. Try exposing as if you were using an Ilford ordinary plate, and you won't be far out. Soak the film in water before applying the developer until the paper is quite limp, and proceed as you would do with a plate, but be careful to see that the film is kept well covered with the developer. I don't know what developer the makers recommend for their paper negatives, but if you use that advised for their plates you will be somewhere near the mark. The constituents per ounce are pyro 2 grs., ammonia bromide $\frac{1}{2}$ gr., ammonia 1 minim. If you use 10 per cent. solutions you will be able to make up your developer without difficulty.—ISO.

5103. Enlarging.—In the Multum-in-Parvo, the bellows certainly do not "conceal all," as there is a ground-glass focussing screen, and dark-slides are used just as in an ordinary camera. Focus by racking the negative backwards and forwards, and also the focussing screen. Insert dark-slides with bromide paper, and expose.—PEN.

5104. Stereoscopic Moon.—If "F. R. H." will communicate with me I shall be pleased to make him a transparency from a negative I have of the moon (stereoscopic) about the size he wants.—C. N., address with Editor.

5105. Fixing.—Most certainly not. If you use hypo afterwards, you will reduce instead of intensify. After the bleaching by mercury, immerse in baths as recommended by me in answer No. 5097 this week.—PEN.

EDITORIAL.

SPECIAL NOTICE.—We are very pleased to find that replies in this column are so much appreciated, but we should be very grateful if those requiring advice would send their letters to us BEFORE TUESDAY MORNING'S post if possible. The time occupied in replying in this column is very considerable, and owing to the often late receipt of letters, many matters have to be left over each week. This we much regret.—ED: AM: PHOT:

AGNOSTIC.—You had better send us a negative showing the markings, with detailed statement as to developer, alum bath, hypo, etc., of your method of working. We will then see if we can help you.

R. H. MICHIE.—You had your clearing bath too strong. Use a citric acid and chroms alum bath. Fixing is frequent with the bath you use.

IVANHOE.—(1) This is spoilt by the fuzziness of the foreground, which may be artistic but it is not natural or pleasing to us. (2) Much over-exposed and is too much on one side of the plate. (3) Your principal object is the old salt, and his should have been sharp, and the background slightly out of focus if you like. (4) The white fuzzy patch on right-hand corner spoils this. (5) An excellent picture spoilt by your cutting off the corner of gate; the negative is over-exposed, and why did you not get something sharp beyond the tiles on the roof? Cut half an inch off the foreground. This is the best and most artistic of your set. (6) You can cut your print in half, and throw away the right hand entirely, with advantage to the artistic qualities of your prints. We do not like your glaze at all, as it throws up the disturbing out-of-focusness or frizziness most painfully. You should never print in the sun.

H. BURDWOOD.—(1) If your lens is of 8 in. focus, which we believe is right, at 6 ft. from siter the focus will be 9 in. and the full apertures will be $f/9$, at 7 ft. from siter the focus will be 8½ in. and full aperture $f/8\frac{1}{2}$. We write you privately with regard to the other points in your letter.

T. J. HUGHES.—We hope to be able to publish more punctually in the future.

H. DE BURGH DALY (Italy).—Your letter shall have attention, and we will write to you.

CANTERBURY.—Take your quarter-plate, have some new slides made for it, buy a Shew's Eclipse fitted with roll holder and dark slides. Use cut films, Thomas's are very good, and Paget plates xxx. and xxxxx.; order them direct of the maker. You will then be prepared for any emergency. Exposures are much the same as in England, but you would find Watkins' exposure meter a great help.

CARLO DONATI.—(1) There is no book published upon "carbon printing," except the "Instructions" issued by the Aristotype Company. (2) Messrs. Barnard and Co., 19, Berners Street, issue such a book, price 1s. (3) Yes, if you apply to the office they will send you rules and conditions.

MRS. HOLFORD.—It will be quite a fortnight before the awards can be made.

BLISTER.—We do not undertake to insert all the answers that come to us, or there would be no room in the AMATEUR PHOTOGRAPHER for any articles at all. Your treatment is not singular by any means.

LIVERPUDLIAN.—Perhaps the man has learnt better. ABROAD.—Will write you in a post or two.

W. GLADSTONE.—Very many thanks; slides duly received.

GODFREY BINOLEY.—We are at work upon this project you mention, and shall have something very useful in the 1892 "Annual" upon the subject. Very many thanks for the slides.

R. H. MICHIE.—We do not allow past winners of the AMATEUR PHOTOGRAPHER medals to enter the Monthly Competitions, and having taken the bronze medal, a competitor cannot enter it again, and having taken the silver medal he is debarred altogether

from the Monthly Competition. There is already too much detail in our competitions, and your suggestions would increase it very much.

MARGARET WATSON.—The mount and print were broken to such an extent as to be almost unrecognisable; due to careless packing. In sendings from abroad a photograph should always be packed between thin boards.

LADY DONSON.—We shall use the substance of your letter, for which we accept our thanks.

H. I. C.—(1) Yes, Davenport's Ever-ready dark-room is well ventilated and perfectly satisfactory. We do not think it can be seen anywhere except at the maker's. (2) No; unless you use a lot of paper, disregard the saving of wastes. The only thing to do is to burn the paper, treat the ashes with nitric acid, and precipitate the silver, and redissolve.

ROBERT JESON.—You give us absolutely no details as to development. We presume they are developed with hydroquinone, and they are developed too much and fogged. Let us know how you develop. No. 2 is about right for density, but the negative is fogged.

G. S.—Three changes of water are not sufficient for prints before toning; probably the hypo bath was too cold; all solutions should be at the same temperature. The use of a salt and water bath after toning and before fixing is a preventive of blistering. (1) The developer did not evenly cover the plate, causing lines seen at the top of print, which is otherwise good. (2) Just a trifle flat, would print well on slow bromide or gelatino-chloride paper. (3) Good technically, but spoilt by the too evident posing; had the sitters been conferring over some trifle of work, it would have been improved. (4) See note to 2. (5) Good. (6) Flat, see note to 2. (7) Good. "Why not have allowed the siter a cigar and made him read his paper?" (8) Too black in the lower part, and the face and hands too white; longer exposure and less pyro and bromide would have improved this. (9) Good. (10) A difficult and trying subject, which owing to the great contrasts of light and shade would have given better results on a dull day without sunshine. (11) Good. (12) Good. (13) See note 2. (14) Over-toned, see note to 2. Your work shows good technical skill, and if you will only give up taking portraits or groups in the sun, and be a little more careful to conceal the art of posing, by letting your sitters take more natural positions, or rather let them do something, your work would be fully up to our competition standard. We should advise you to try a matt-surface paper, either gelatino-chloride or bromide, and then have a good try for one of our medals. Nos. 5 and 7 are exceptionally fine as portraits, and No. 3 has surroundings sufficiently artistic to make work on such a subject pleasing. Try again, with the suggestions we have made in your mind and let us see some more work.

C. T. RADCLIFFE.—(1) Spoilt entirely by the cutting off of the horse's legs. (2) Far too black in the foreground. (3) You might have spared a little from the blank sky and not given us featureless arches. (4) Good. (5) Good. The stains are certainly due, as you suggest, to insufficient washing before fixing.

E. H. KITSON.—We will see what we can do for you presently.

A YOUNG BEGINNER.—(1) Under-exposed and fogged in developing. (2) The plate suffers badly from halation, the camera should have been near the window, and the sitters opposite. 3 and 4 both too much posed, and the fearful backgrounds in each completely spoil everything; paste two sheets of tissue paper over printing frames and print slowly. One lens may be used for quarter, half, and whole plates.

ALF. ELKINGHAM.—The only improvement we can suggest is for you to buy a portrait lens, and thus be enabled to get rather softer effects. Considering your short experience and your lens, your work is exceptionally good.

H. PRESS.—Do you mean stop $f/16$ of both lenses, that is to say, is the aperture of the R. R. $\frac{1}{4}$ in., and that of the W. A. R. $\frac{1}{2}$ in.? If so, the exposure on any given subject would be the same for both lenses.

A. DALTON.—The fault is due to the developer, we think. Will you send us up two exposed but undeveloped enlargements? Only stop down sufficiently to obtain sharpness, and use ground-glass behind the negative.

W. H. SAUNDERS.—See the glass is quite loose fitting, and turn the lamp up gradually; you can only harden the glass by placing it in oil, and raising to the boiling point and allowing to cool gradually.

J. C.—We have sent your card on to a lady we know, and you will probably hear from her.

JAS. STOREY.—We are undecided as to the exact position recommended for the corrector, but will answer you next week.

A. GROVES.—We prefer eikonogen.

Eikonogen	...	...	...	5 parts.
Sodium sulphite	...	...	...	10 "
Distilled water	...	...	...	200 "

Caustic potash	...	...	5 "
Distilled water	...	...	100 "

For use mix 2 parts of 1 with 1 part of 2. Ilford's work well with Beach's developer.

J. HARRIMAN.—Platinotype is quite satisfactory but not equal to the carbon process.

HUGH ATKINSON.—(1) Good; but would not the bushes in the foreground have helped the picture? (2) Interesting as a local bit. (3) Just spoilt by your cutting off the bridge end. (4) Good. (5) A charming

little bit. (6) Good. (7) Good. (8) If you had only included a little more rush. (9) Ditto. They will all make charming slides of special interest to local people. 5 and 8 are quite up to our competition standard; all are good work, considering how short a time you have been at it, and we should strongly advise you to invest in a larger camera and try picture-making, and always use matt-surface paper.

REUTAMA.—(1) About 40 seconds is an average time. (2) Negative upside down, and film side inside, is the rule. (3) Verel's bromide plate, Cathcart, Glasgow; or Fry's, Chandos Street, Charing Cross, W. Which ever you choose, ask the makers to send you some trial pieces of bromide paper coated with the same emulsion as the plates, and expose the paper in a well-detailed part of the plate, and develop. This will give you a guide as to absolutely correct exposure. Give the paper varying exposures of 10, 15, 20 seconds, covering up with black card. (4) Use a rapid bromide paper for enlarging; the exposure will then be about 20 to 25 seconds.

J. G. BRADEN.—Letter by post.

H. BARRACLOUGH.—Fallowfield sells ferrotype plates, and they can be relied on.

H. E. ILLINOWORTH.—The hand-camera you name is a reliable instrument.

F. J. HATCHMAN.—Add more of the eikonogen solution; warm your developer, and allow the plate to be quite black on the surface.

C. R. H.—We do what you ask us to do. The print shows a double outline for everything; it is far too black in the right and left hand corners, it is evidently from a thin negative on hideous pink paper; the boy in the white blouse fishing should have had something dark behind him, not the light tree, and the two boys in dark coats should have been separated. You state that it is an enlargement; this probably accounts for a good deal of the fault we find, and we should strongly advise you to let us see a print from the original negative, or if you like to send us the negative we will see what we can do with it on bromide paper. We do not state that there is no artistic feeling in your picture, only your technical skill in this case is deficient, and sadly hampers you, and gets you the slating you ask for. Doubtless we have published many prints which are worse than yours, but—you make no allowance for the process block and machine printing. Let us bear from you again, and let us see a good print from the original, and we will then let you down easily; send some other work too.

"AMATEUR PHOTOGRAPHER'S" Annual Lantern Slide Com- petition.—1891.

SLIDES have been received from:—

S. H. Barton	London
A. R. Dresser	Bexley
Edgar G. Lee	Cullercoats
E. Brightman	Bristol
John E. Austin	Maidstone
Mrs. S. Francis Clarke	Louth
Major J. D. Lysaght	Cork
E. J. Bedford	Lewes
Cyril S. Cobb	Surbiton
Jas. Davenport	Manchester
Dr. Ringrose Atkins	Waterford
F. W. Plews	Leeds
John W. Wade	Manchester
Arthur L. Spiller	Hampstead
W. M. Smith	Leith
Alfred H. Webbing	Brighton
S. Francis Clarke	Louth
A. H. C. Corder	Brighton
L. Roberts	Cleveland
W. Gladstone	Boness
T. Widdop	Oldham
G. J. Wightman	Lewes
T. H. Taylor	Paisley
H. Holt	Liverpool
T. Ferguson	Kilmarnock
F. Goldley	London
H. Thompson	Harrogate
T. Burton	Oldham
W. Milburn	Sunderland
E. J. Jackson	St. Andrews
A. F. G. Dowdall	Exeter
C. E. Greenall	Kendal
T. R. Wright	Reading
W. McEwen	Penge
R. C. Macleod	Hayward's Heath
C. E. Cowper	Sunderland
H. Shimwell	Birmingham
T. A. Cunningham	Greenock
H. P. Atkinson	Leeds
D. Hunter	Pudsey
W. H. Henings	Pudsey
H. J. Robinson	Stockport
Dr. Jumeaux	Matlock
A. D. Guthrie	Leith
A. Pitkethly	Leith
D. Cameron	Glasgow
E. M. Tunstall	Liverpool
J. T. Brierley	Chorley
C. G. Davis	Darlington
W. Edwards	disqualified.

Sale and Exchange.

RULES.

COMMISSION.—A charge of 2½ per cent. will be deducted from all deposits whether a sale is effected or not. Minimum charge 1s.

PAYMENT.—All payments are to be by cheques or Postal Orders, made payable to **Hazell, Watson, and Viney, Ltd., 1, Creed Lane, London, E.C.**

REPORTING.—Apparatus may be sent to the Editor, **AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C.,** who will report upon the apparatus to the buyer for a minimum fee of 2s. 6d., or a commission of 2½ per cent., upon the sale price of the apparatus.

CARRIAGE must be paid on all apparatus sent for report, and they will be returned carriage forward.

ADVERTISEMENTS can be inserted under a number, the name and address being registered, and letters forwarded for a fee of 3d. to cover postage.

ADDRESS.—All advertisements (which can be received up to Wednesday morning, 9.0 a.m.) and other communications having reference to the "Sale and Exchange" column, must be addressed "Sale and Exchange, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C."

PAYMENTS should be made in Postal Orders or Postage Stamps.

Backgrounds.—For sale, canvas background, on roller, exterior, 8 by 6, new; 9s. 6d. — Ready, 40, Laughton Road, Brixton, S.W.

Banjo.—Splendid patent celluloid banjo, with metallic bearings, nickel-plated, beautiful tone, tortoiseshell hoop, ivory pegs; take £2 10s.; a bargain; approval; deposit.—It. M., AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.

Bicycle.—Safety, cushion tyres, balls throughout; £6 10s.; worth £12; approval; deposit.—Cyclist, 7, Dereham Road, Norwich.

Cameras, etc.—Pearson and Denham's patent half-plate reducing camera, for making lantern slides from negatives, new, a bargain, 25s.; also Phoenix half-plate instantaneous shutter, ebonite, new, a bargain, 12s.—Davies, Posture Lane, Clayton, Bradford.

Half-plate camera, slide, and stand, 30s.; quarter-plate camera and slide, has all movements, and 10s. worth of sundries, 35s.; capital print-washer, with perforated false bottom, holds six gallons, 11s.; or 70s. the lot.—Billposter, Oakham.

Cameras, Lenses, etc.—Large camera and lens for sale, cheap, also half-plate complete outfit; letters only.—7, Dereham Road, Norwich.

Hand-Cameras, etc.—Kodak, No. 3 Junior, about two dozen unexposed films, equal new; price £6; approval; deposit.—Bygrave, 15, Canterbury Road, Brixton, S.W.

A No. 2 King's Popular hand-camera, carries twelve plates, nearly new; price 25s.—H. D. Bateman, River Bank, East Moulsey.

Key camera, as new, complete with finder and tripod; £5; or exchange for good half-plate set.—C. G., 28, Lucas Road, Penge, S.E.

Kodak, No. 4 Junior, perfect condition, with complete unexposed spool, £7 10s.; extra spool, 10s.; seen by appointment; no approval.—Ellis, 48, Commercial Street, E.

Chadwick's practical hand-camera, twelve Barnett's slides, in waterproof case, R.R. lens, with iris; four guineas.—Appleton, Cleveland Mills, Stockton-on-Tees.

Lantern Slides.—Clearing out duplicates, professional made (collodion); Lake district, abbeys, castles, Continental and abroad, splendid value; 4s. 9d. doz., carriage paid.—No. 206, AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.

Lenses, etc.—Splendid large landscape lens, exchange wanted; small rectilinear, offers?—Pennessy, Pallasgreen, Limerick.

Good lens (Berthiot No. 3), half-plate, very rapid; worth £6; will take £3; quite new.—Noel, 19, Regent's Park Terrace.

Lens, rectilinear, 7 by 5, loose hood, stops f/8 to f/32, highly finished; 25s.; try it on approval for yourself.—Adams, Harold Woods, Essex.

Lens, double Eyescopes, with stops (by Voigtlander), focal length 9 in., will cover whole-plate; 12 months ago cost £5 5s.; price £4; a bargain.—Photographer, Conservative Club, Northampton.

Sets.—For sale, the half-plate photographic outfit of an amateur, cost over £30, including camera, lenses, optical lantern, ¾ in. condenser, washing sink, chemical cabinet, gas lamps, etc., burnisher, plates, chemicals, dishes, etc.; price for the lot, only £15; lists free; no approval.—Apply, No. 204, AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.

Superior 10 by 8 camera, with three double slides, turntable in camera base, first quality tripod, two cases, in perfect condition; cost over £11; will take £7.—Manchester Photographic Depot, 71, Oxford Street.

For sale, Lancaster's half-plate International camera, with every possible movement, four double slides, canvas bag, Ashford's patent tripod, good as new; the best offer a bargain.—T. Davies, Posture Lane, Clayton, Bradford.

Beautiful little (quarter-plate outfit, nearly new, with Wray's lens, light tripod in case, three book

slides; no use for it; a bargain.—No. 205, AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.
Bargains, giving up. Lancaster's Omniograph, 17s. 6d.; 5 by 4 wide-angle lens, 17s. 6d.; 7 by 5 rapid rectilinear, 25s.; Lancaster's best half-plate tripod, in canvas case, 12s. 6d.; another half tripod, cost 10s. 6d., price 5s. 6d.; quarter tripod, cost 6s. 6d., price 4s.; negative washing tank, quarter, half, and whole-plate, 5s. 6d.; large double spray print washer, cost 35s., price 17s. 6d.; large retouching desk, cost 25s., price 15s.; exchange gun.—M. Newhouse, 90, Victoria Terrace, Lancaster.

Good half-plate set; bargain for 70s.; approval. It is Instantograph camera, slide, tripod, R.R. lens.—2, Hawthorn Villas, Slad Road, Stroud, Glos.

Complete 12 by 10 set, great bargain. Raymont's patent camera, four slides, in solid leather case, two lenses, Optimus R.R. and Optimus W.A., in leather case, tripod, carriers, printing frames, dishes, two dozen Edwards's plates, instantaneous shutter; whole cost £38; equal to new; price £18, or offers.—To be seen at the AMATEUR PHOTOGRAPHER office, 1, Creed Lane, E.C.

Sundries.—What offers for Booth's mitro cutter, perfect condition, sale or exchange?—R., 89, Northumberland Street, Liverpool.

Camera bag, waterproof canvas, half-plate; 3s. 9d.; new.—Adams, Harold Woods, Essex.

The AMATEUR PHOTOGRAPHER for 1885, 1887, 1888, 1889, and 1890, the first and last incomplete; Photographic Societies' Reporter, vol. 1, Nos. 1 to 7; "The Indispensable Handbook"; "American Annual of Photography," 1891; price 15s., or offer.—Wall, 41, Hugh Street, Eccleston Square, London, S.W.

Shew's patent all-metal camera clip for large camera, instantly fixed to side of boat, rail, fence, etc.; 15s.; cost more than double.—Bygrave, 15, Canterbury Road, Brixton, S.W.

Dolphin carved oak table, £3; also two carved chairs, £2 5s.; several backgrounds, cheap.—Artist, 7, Dereham Road, Norwich.

"Journal of Decoration," 35 sevenpenny parts, fine illustrations; exchange anything photographic, papers, etc.—B., 20, Clarence Street, Lancaster.

Box tent for developing or changing plates, size (closed) 18 by 15 by 4, in good order; price 8s.—Naylor, 77, Cadogan Square, S.W.

Tricycle.—Quadrant Company's tricycle, spring carrier for camera or luggage; cost 35s.; price 20s.; approval; deposit.—Bygrave, 15, Canterbury Road, Brixton, S.W.

WANTED.

Cameras, Lenses, etc.—Half-plate front extension camera, also rapid rectilinear lens, tripod stand, good maker.—A. S. Poole, Cobham, Surrey.

Hand-Cameras, etc.—Good hand-camera; approval.—Proprietor, 54, Fore Street, Ivybridge.

Lantern, etc.—Good oil optical lantern, 4 in. condensers, quarter-plate camera, back extension, single slides preferred.—H. Stevenson, Church Place, High Street, Paisley.

Lenses, etc.—Optimus lens, half-plate rectilinear; good exchange given, or cash.—Garrett, Coldbath Road, Harrogate.

Set.—Wanted for cash, large-size apparatus, also half-plate outfit, good makers, modern.—Apply, 7, Dereham Road, Norwich.

Whole-plate set, Lancaster's Instantograph preferred, with R.R. lens; in exchange for good portable greenhouse, with boiler and pipes complete.—124, Upper Villier Street, Wolverhampton.

A good quarter-plate or 5 by 4 set.—Heath, 4, West View, Kendal.

Sundries.—Vol. IV. of the AMATEUR PHOTOGRAPHER, bound or unbound, also vol. I. of the "Photographic Quarterly," and any photographic books or journals.—Send list and price to Wall, 41, Hugh Street, Eccleston Square, London, S.W.

"Photographers' Indispensable Handbook," clean and perfect; state price.—3, Walpole Street, Wolverhampton.

The Tent and Studio may be used in combination, or independently of each other, and everything is sent out complete and ready for use.

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Office: 1, Creed Lane, Ludgate Hill, London, E.C.

No. 367. Vol. XIV.]

FRIDAY, OCTOBER 16, 1891.

[PRICE TWOPENCE.]

OUR VIEWS.

"To hold as 'twere the mirror up to nature,"—Shakespeare.

OUR VIEWS.—The AMATEUR PHOTOGRAPHER Monthly Competition—Photographs of the Year—1891 Prize Slides—Photographic Society of Great Britain Lantern Nights—Dr. Petzval.

LEADER.—The Photographic Society's Exhibition (Third Notice).

ILLUSTRATION.—Gosensses (Cyril S. Cobb).

LETTERS TO THE EDITOR.—Dark Room for Army Officers (Centurion)—German Customs and Dry Plates (William Mann)—New Boston Slides (E. M. Tunstall)—Development (W. H. Ellis).

ARTICLES.—Photographic Procedure, illustrated (Wall)—Instantaneous Photography (Harrison)—How I Started a Successful Society VII. (A Provincial).

NOTES.—Thursday Evenings at the Camera Club—From the Edinburgh Centre—From the Liverpool Centre—"Amateur Photographer's" Monday Evenings.

QUARTERLY EXAMINATIONS IN PHOTOGRAPHY.

EXHIBITIONS.—Amsterdam International Photographic Exhibition.

SOCIETIES' MEETINGS.—Birkenhead—Coventry and Midland—Croydon—Dewsbury—East of Scotland—Frome—Glenalmond—Halifax—Herefordshire—Holborn—Huddersfield—Ireland—Leeds—Lewes—Liverpool Y.M.C.A.—North Middlesex—Putney—Rotherham—Staff. Potteries—Sheffield—Sunderland—West London—York.

EDITORIAL DEPARTMENT.—All Literary Contributions, Queries and Answers, Photographs for Competition or Criticism, Books or apparatus for Notice or Review are to be addressed to the EDITOR, AMATEUR PHOTOGRAPHER, 1, CREED LANE, LUDGATE HILL, LONDON, E.C. (All Communications should reach the Editor on Tuesday.)

TRADE ADVERTISEMENTS are received up to Tuesday morning.

TERMS OF SUBSCRIPTION—

UNITED KINGDOM Six Months, 5s. 6d. Twelve Months, 10s. 10d.
 POSTAL UNION " 6s. 6d. " 12s. 0d.
 OUT OF POSTAL UNION " " 7s. 9d. " 15s. 3d.

PUBLISHING DEPARTMENT.—All letters containing Subscriptions, Orders, Remittances, SALE and EXCHANGE Advertisements, or other business matters for the AMATEUR PHOTOGRAPHER are to be addressed to the Publishers, HAZELL, WATSON, and VINEY, LD., 1, CREED LANE, LUDGATE HILL, LONDON, E.C. (SALE and EXCHANGE Advertisements, at the charge of Three Words for One Penny, can be received as late as WEDNESDAY MORNING.)

"Amateur Photographer" Monthly Lantern Slide Competition, (Sixth)—"PORTRAITURE AND FIGURE STUDIES." Last day, OCTOBER 22ND.—Two Slides to be sent in. Entry Forms, etc., on receipt of stamped envelope. Address: Editor, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C.

Amateur Photographer" 1891 Stereoscopic Slide Competition, (Fifth Year).—Prizes: Gold, Silver, and Bronze Medals, and Certificates in each class. Competitors can only enter one class, and every competitor must contribute six slides.

CLASS I.—Landscape, Sea Pieces, and River Scenery, with or without figures.

CLASS II.—Architecture, Interior or Exterior.

CLASS III.—The Fine Arts, which may include Sculpture, Art Metal Work, China, Bric-a-Brac.

NOTE.—Past prize-winners will be awarded "Niepee," or progressive medals, should they win a medal of the same value as that which they have been awarded in past Stereoscopic Slide Competitions.

DATE.—All slides must be received on or before October 30th, 1891.

RULES, CONDITIONS, and ENTRY FORMS will be forwarded on receipt of stamped addressed envelope. The application should be endorsed, "STEREOSCOPIC SLIDE COMPETITION," Editor, AMATEUR PHOTOGRAPHER 1, Creed Lane, London, E.C.

"Amateur Photographer" Monthly Competition No. 30—"INLAND SCENERY." Last day, NOVEMBER 2ND.—Prizes: Silver and Bronze Medals, with Ribbon and Clasps. One print only to be sent in. Entry forms, etc., on receipt of stamped envelope. Address: Editor, AMATEUR PHOTOGRAPHER, 1, Creed Lane, E.C.

Members of the Editing Staff are "At Home" on Monday, afternoons from Two till Five o'clock, and they will gladly give advice upon all photographic matters.

THE contributions to the AMATEUR PHOTOGRAPHER Monthly Competition, No. 29, "Harvesting," were fairly numerous, and the work on the whole was good.

First Prize (Silver Medal).

A. J. JEFFREYS Chelmsford.

A fine print on rough paper showing two reapers at work at the close of the day. The composition of the picture is all that can be desired.

Second Prize (Bronze Medal).

W. COOPER, JUN. Frome.

A good picture of a group of reapers at dinner, well composed, and the exposure and development show excellent judgment.

It is only fair to say that Mr. Ernest Beck, of Sheffield, would most certainly have been awarded the second prize, but that, under our rules, he was disqualified, having already taken a bronze medal in the monthly competitions. The above-mentioned prints, and several others, will be reproduced in the forthcoming *Photographic Reporter*.

THE notable photographs to be reproduced in "Photographs of the Year" have now been definitely settled upon, and are all well in hand:—

"Ce n'est que le premier pas qui

coute" W. R. Cassels.

"Reflections" Lyddell Sawyer.

"The Thaw" J. P. Gibson.

"By Reedy Ways" A. Horsley Hinton.

"A Lesson in Spinning" J. Gale.

"A Knight" Arthur Burchett.

"Manchester Ship Canal" T. Birtles.

"A Sea Dream" W. Clement Williams.

"Group of the Misses Dene" H. Van der Weyde.

"The Caskets" A. R. Dres-er.

"Peep-bo" Ralph W. Robinson.

"An Old-Fashioned Winter" H. Stevens.

We are quite sure that visitors to the Exhibition will give Mr. Robinson and ourselves credit for having selected not only notable photographs for reproduction, but those which show to the best advantage the various applications of photography to art and everyday life. Our publishers will be glad to receive the names of subscribers as early as possible. No copies will be sold after publication for less than 10s. 6d.

WE shall be pleased to hear from Secretaries of Societies who may still wish to have the 1891 Prize Slides. The following list will serve as a guide. It is desirable, in order to save expense, that dates shall be fixed when the slides are in the district as shown.

As far as possible we have kept to the dates asked for, and shall be glad to know at once if it is not convenient to receive them on the day named. An advice note will be sent in good time, and full instructions given as to where the slides come from, and to whom they are to be sent. We must ask that the slides be despatched, whenever possible, the same night, and to avoid disappointment the directions must be implicitly carried out, and the utmost expedition used. It will be seen that the journeys are arranged so as to make the carriage fall as lightly as possible on each society. Unless otherwise instructed, the box is to be sent carriage forward.

Prospective Arrangements.

Oct. 17.—Phot: Soc: of Great Britain	Jan. 7.—Stockton
" 20.—Woolwich	" 9.—Sunderland
" 22.—Ealing	" 11.—Newcastle-on-Tyne
" 27.—Pudsey	" 12.—Leith
" 29.—Liverpool Am: Phot: Assoc:	" 13.—Edinburgh Phot: Soc:
Nov. 2.—Belfast	" 14.—Brechin
" 6.—Carlisle	" 16.—Rodley, near Leeds
" 10.—Manchester Am: Phot: Soc:	" 18.—Leeds
" 11.—Kendal	" 19.—Sheffield (?)
" 12.—Blackburn	" 21.—Dewsbury
" 13.—Liverpool C: Club	" 22.—Holmfirth
" 17.—St. Helens	" 28.—Huddersfield
" 18.—Coventry	Feb. 1.—Halifax
" 20.—Louth	" 2.—Keighley
" 23.—Buxton	" 9.—Wolverhampton
" 25.—Ashton-under-Lyne	" 10.—Birkenhead
" 26.—Barrow in Furness (?)	" 16.—East Southsea
" 27.—Tunbridge Wells	" 17.—Southsea
" 30.—Croydon	" 21.—Rossendale
Dec. 1.—Sutton	" 23.—Dukinfield
" 4.—Maidstone	" 25.—Oldham
" 8.—Lewes (?)	" 26.—Lancaster
" 9.—Putney	" 29.—Stockport
" 11.—Richmond	Mar. 2.—Shrewsbury
" 15.—Faversham	" 11.—Dublin
" 16.—Enfield	" 14.—York
" 18.—Lewisham	" 18.—Cardiff
" 21.—Hastings	" 21.—Kington (Hereford)
" 22.—Brighton	" 22.—Hereford
Jan. 4.—York	" 23.—Birmingham
" 5.—Darlington	" 29.—Bedford
	" 31.—Oxford
	April 4.—Peterborough
	" 7.—Hull

In loaning the 1891 Prize Lantern Slides we rely upon all who have them to take every precaution against breakage, to clean the slides, and see that they are replaced in the box in their proper order; by so doing much disappointment will be saved.

As last year, a short history of each prize winner, and a description of the slides, etc., will be sent out with the box, and each set will include a portrait of the competitor.

To show the slides to advantage will take from an hour to an hour and a half.

We shall feel obliged if the Secretaries of societies will forward copies of local newspapers which may notice the exhibition of the 1891 AMATEUR PHOTOGRAPHER Prize Slides. We are confident that they will be well received wherever they are shown, and are deeply indebted to our competitors for the opportunity thus afforded to supply the means for a pleasant and instructive evening's entertainment to thousands of people throughout the country.

THE Assistant Secretary of the Photographic Society of Great Britain writes that the lantern night arrangements for this month are as follows:—October 17th, AMATEUR PHOTOGRAPHER Lantern Slide Competition slides; October

19th, exhibition of lantern slides by the London and Provincial Photographic Association; October 21st, lantern slides by A. R. Dresser, descriptive of a tour through Brittany; Oct: 22, lantern-slides by C. Essenhigh Corke, of Knowle House.

It is with regret that we have to announce the death of Dr. Josef Petzval, K.K. Hofrath und Ritter des Franz Joseph-Ordens, etc., etc., on September 17th, 1891, in the eighty-sixth year of his life. Prof. Dr. Josef Petzval was born on January 6th, 1807, at Bela, North Hungary, of German parents. He studied and graduated at the University of Pesth, and was appointed in 1832 assistant professor of higher mathematics, and in 1835 to the professorial chair. Petzval is best known in photographic circles for the calculation of the now universally used Petzval portrait lens, and the older and now out of date Orthoscope lens, but he did not confine his energies to this field alone, but improved the telescope, microscope, etc.

"AMATEUR PHOTOGRAPHER" AGENCY FOR DISTRIBUTION OF APPARATUS, ETC., TO NEEDY PROFESSIONALS.

It has been thought by some readers of this paper, and amateur workers, that it would be pleasant to be able to make some acknowledgment of the civility and attention received from so many members of the profession in placing dark-rooms, etc., at their disposal—in many cases without any charge. It is considered that the most graceful way of expressing this feeling will be by giving assistance to struggling professionals by providing them with more efficient apparatus, etc., and this is the object of the above agency. For the present, and until a regular committee can be formed, Mr. Harry Alcock, Meadowside, Avenue Villas, Cricklewood, London, N.W., has consented to act as Hon. Secretary and Treasurer. Subscriptions of apparatus or cash will be received by him and acknowledged in this paper. Those having spare apparatus which they would be willing to give for the above-named purpose should communicate with Mr. Alcock, who will bring the donor into communication with a suitable applicant, through the medium of the AMATEUR PHOTOGRAPHER. Applications for assistance, which will in no case be given in money, should be addressed to Mr. Alcock, and must come through a reader of this paper, and be accompanied by the address of a clergyman or other person of position, to whom reference may be made. Whenever practicable, a personal inquiry will be made into the bona-fides of each case, though it will not be deemed necessary to publish the full names of the persons to whom the gifts are made. As funds permit, purchases of apparatus will be made in accordance with the needs of the most suitable applicant. Many readers doubtless have old apparatus which would probably not fetch a tenth of the original cost if sold, but which would be a real boon to many needy professionals. Old portrait and other lenses, box cameras, and various sundries will all be useful, and we are satisfied that they can be properly and advantageously distributed. The following additional subscriptions have been received:

Miss E. M. Farmar, Paddington Green, W.	2s. 6d.
U. W. A., Hendon	2 0
A. R. Lambe, photographic dealer, Kilburn (1st sub.)	2 6
Harry Alcock (1st sub.)	2 6

A $7\frac{1}{2}$ by 5 landscape lens has been purchased and sent to the young professional at Deal. Some other applications for assistance have reached Mr. Alcock, which will be dealt with as soon as possible.

THE PHOTOGRAPHIC SOCIETY'S EXHIBITION.

(THIRD NOTICE.)

WE expect to find in a photographic exhibition a large number of pictures to which the term *genre*, from the French expression *tableau de genre*, is often applied. This also, as well as the term "study," is one which is very dear to exhibition managers and others whose acquaintance with art technology is limited, and is not unfrequently misapplied. In painting, the word applies to a choice of subject, taken from ordinary life, which it is impossible to class with grand or imaginative painting. In photography, of course, when dealing with human subjects, which are not portraits pure and simple, it is rare to rise higher than what is implied by the term in its most commonplace sense. With single figures we are generally more successful, but when we deal

with story-telling groups, upon which so much labour and ingenuity are sometimes expended, the result is not often elevated above the commonplace, and has not the talent of the painter to recommend it in other ways. It seems, in fact, almost impossible to avoid what is shown by nine-tenths of our *tableaux de genre*, which is simply a certain dexterity of photographic manipulation, some talent for arrangement of groups in the style of *tableaux-vivants*, and models to whom a vast deal of the entire credit is due; all this applied usually to the most insignificant events, which in real life no one would turn round twice to look at. A very frequent and more reprehensible practice is the placing of these trivial groupings in a wide margin of diversified landscape, which so distracts our attention that we do not know which we are called upon to admire, the beauty of the landscape or the little group of figures which is supposed to justify the sentimental title of the picture.

Mr. F. P. Cembrano, jun—"A Sussex Farm" (49) is a delightful arrangement; a charming bit of landscape, an effective tree, old roofs and buildings, and some water in the foreground; delicate in definition, though there is nothing obtrusive; a sky which is suggestive of evening; a good colour, and happily printed on extra rough paper. "Sunset, Winter" (49) is a small picture, in awarding to which the Society's medal the judges have shown a discrimination which we have not yet heard called in question. The scene is a little above Twickenham, at the beginning of a winter evening. The sky is harmonious, and certainly very effective with its long banks of clouds stretching across the oblong picture. The sickly sun, soon to disappear, casts lengthening shadows of the leafless trees on the cold grey water, and a solitary barge drifts slowly down the stream. "A Misty Morning" (41) is another of the little river mist views characteristic of Mr. Cembrano, printed, we cannot help thinking, by some method of his own, which veils portions and leaves others more distinct. The sky is exactly as it should be in such a picture; the figures well placed, and suggestive of quiet winter angling. "River Fog" (39) is smudgy, and quite inferior to the others in arrangement and harmony. "Twilight," also, (36) appears to us to be altogether defective in lighting, and, except that masses of the picture are deeply printed, in no way gives the feeling that the title suggests; neither is it a good nor attractive composition. We fear that this is one of those cases where the photographer, instead of beginning with a settled purpose to produce a definite effect, has, on the contrary, named his picture after the event. He has, in fact, first taken a print and then given the result a name which he thought most like the effect produced. There is no real art in doing this, which is but too common a practice. Altogether these little pictures show how much can be done on a small scale, and should be a source of encouragement to others.

Mr. Henry Stevens.—Mr. Stevens' homely pictures are always pleasing. His skating scenes this year are excellent, and so, as usual, are his models and his well-known dog. His flower pieces are, of course, technically as good as can be. Speaking generally, however, of many others he has previously exhibited, we cannot help thinking that his arrangement might sometimes be better. We should strongly advise those who intend to go in for flower pieces to study, either from originals or engravings, the work of such masters as Van Huysum, or the De Heems—greatest of all, Jan David de Heem. There is no one to compare to the latter in grouping; his detail is exact and minute, he delights in figured vases of pottery and porcelain; his arrangements show the most profound knowledge of harmony of tones, great judgment, and careful treatment of the backgrounds, whether these be bright or sombre. Some of Van Huysum's work is, we believe, at Dulwich, and fine

mezzo tints by all the above-named could be found at the British Museum.

Mr. C. S. Roe.—In "Sedge Gathering" (128) we have an elaborate composition, the details and arrangement of which are well cared for, the background well-managed. It is a group of a woman and girl loading a boat with bundles of sedges, a man with another bundle wading waist deep in water, and a meadow with cattle and trees in the distance. The latter is well given, but the first planes are somewhat hard and crude. It is a good picture, printed in warm sepia with a tendency to brown. In platinum printing, unfortunately, we cannot mix our colours, and there is no denying that there is a great element of chance about the result.

Mr. Maskell.—These are the only "pinhole" pictures in the Exhibition. The two landscapes (313, 314) will commend themselves to many for their breadth and softness; the sky, however, in 313 is somewhat overdone. "A Back, water at Sunbury" (435) is very pleasing and harmonious, and shows that "pinhole" pictures need not, of necessity, be fuzzy. "At Low Street" (518) is rather chalky and patchy, but it appears to have been shown on account of the spectacle lens used, which is attached to the mount, and altogether the picture is not devoid of interest.

Mr. Padmore.—Mr. Padmore's pictures have a curious and rather pleasing quality, something like the steel engravings in the old "Keepsakes." If this is not entirely due to the grain of the paper, we should be interested to know how it is produced. No. 426 is spoiled by the introduction of the large dog, but both this and the "Sierra Madre" (426) are very effective landscapes.

Mr. Calland.—In the three pictures by Mr. Calland, we have work of extremely high character; work which, we fear, has not yet received its due meed of attention from the public. But it is certain to do so from connoisseurs. The Hanging Committee have not, it may be remarked, shown it much consideration, but this, again, by the way. "In the Month of May" (107) is charming, and in many ways remarkable. It is a bit of lane in the bright May sunshine, with great masses of May blossom hanging over the top of the high-banked hedge. There is a sensation of early spring sunshine, a truth in the lighting, which are most happy. It is not, perhaps, a picture which will please those who insist upon accurate definition and the prominence of every portion. It has also defects in the paper and printing, which have not been too well mended. But, for all this, we have no hesitation in saying that there are few amongst us who could have better arranged and accomplished a work which, with regard to effect of light, atmosphere, and relative values, is, taking it as a whole, of a very high standard. "The Marsh Harvest" (471) and "Study of Grass in Sunlight" (481) are also two remarkable pictures. The diffused focus is something after the character of "pinhole," although in these instances it has not been so obtained. "The Marsh Harvest" has a fine and true effect of heat, atmosphere, and brilliant sunshine. The other picture is simple; a few sheep, a group of trees, a foreground of pasture. Remark the relative value of the grass, which has here, we think, been much more truthfully treated than is usual in photography. To appreciate it, however, we must rid ourselves of preconceived and conventional ideas. We must bear in mind also that, most unfairly, we think, in the hanging of these pictures no regard has been given to their peculiar qualities. On the contrary, with unappreciative indifference, they have been hung in close proximity to dark platinum prints and highly-glazed albumenised ones, of the greatest possible antagonism. We repeat that, in our opinion, all three of these pictures show an effort, an intelligence, and a step in the right direction, which should not be lightly passed by.

Mr. Ralph R. binson.—We cannot help regretting that the group of pictures exhibited here by Mr. Ralph Robinson are so much inferior to the fine exhibition by the same artist, now on view at the Camera Club. We are decidedly of opinion that this is the case, and those, therefore, who would wish to see Mr. Robinson at his best would do well to visit the above-named club, for which tickets may be obtained under certain conditions. We have here, first, three pictures of events in the life of the irrepressible cottager, subjects with which, in photography especially, we have been considerably overdosed. It really seems to be a waste of energy to devote so much time and talent to the uninteresting doings of these cottage people and their children. If only Hodge and his wife were as picturesque as the French peasants in their sabots! But in the present case who, if it occurred in one's daily life, would cast a second glance at the woman making a face through the palings at one of her offspring, or crawling on the grass to reach another? In the second of these (338) the falling off of focus in the background appears to us to be artistic; it is neither diffusion nor differentiation of focus, but simply the lens abruptly ceasing to act with precision. In 340 the title is so very prominent that we are justified in imagining that it points to the strong part of the picture. We search in the inappropriately expansive and diversified landscape, and at last discover a little episode relating to a primrose! In "A Sudden Squall" (343) we have a simple and poetical figure of a woman tramping along the margin of the sea on a gusty day, her feet sinking deeply, at each step, into the soft wet sand, and the strong wind seeming to impel her forward almost beyond her strength to resist. It is a good and a taking picture, with which we have little inclination to find fault. It will remind many people, we think, of two well-known French pictures—a girl on the seashore, by G. Haquette, and "La Marée Montante" of C. Reinhart. "All Illumined in a Rustic Glory" (349) appears to have been imagined with the special object of illustrating a kind of light which one sometimes observes under similar circumstances. It is a girl, reading, as she lies at the foot of a tree in the shade of an orchard; her dog is on her lap, and it is evidently a blazing hot day. We regret sincerely the halo, for it is otherwise, in every way, a capital picture. But this halo—it appears to be worked upon the negative, or in some other artificial way, and that also not satisfactorily. If it is not so worked, if it be not illegitimate, we should indeed be glad of an authoritative denial, and admit the error of our judgment.

Mr. Horsley Hinton.—Mr. Horsley Hinton shows six pictures of considerable merit, for the most part illustrative of flat "saltings" and reed and rush country. "An Essex Marsh" (99) and "Salt Marshes" (94) have the same character of flat marshy land, with groups of cattle pasturing here and there. Unfortunately, in some of these pictures we cannot help recognising a want of harmony between the skies and landscape. In the "Salt Marshes" the former is faulty in relation to the foreground, and in "An Essex Marsh" we have that uncomfortable water which requires to be lowered in tone—a characteristic which is common with many workers. Unless, indeed, very careful methods of negative dodging and printing are exercised with consummate skill and judgment, we fear that, with this class of work, such difficulties will frequently occur where clouds from another negative are used, and where the stock of cloud negatives to select from is not very large indeed. "On Tollesbury Saltings" is, taking it altogether, the best of this set, and, very wisely, a cloudless sky has been left—the very best thing that could have been done. The figures of the man and boys brighten up an otherwise somewhat uninteresting landscape, and happily they have no obtrusive

story to tell. "A Reedy Corner" (101) is very good, and so is "Willow, Reeds, and Rushes" (96).

Mr. Dresser.—Mr. Dresser contributes, as we have before said, six of the most remarkable pictures in the exhibition. They are enlargements from quarter-plate negatives on a rough bromide paper; the colour modified by a method which, we believe, in regard to such paper, is exhibited for the first time. "A Canal, Amsterdam" (304), is an extremely effective picture, showing a long vista of canal, bordered with houses. The focus is considerably modified; whether wholly on account of the enlargement, thrown out of focus at the time of enlarging, or because from one cause or another the original negative was not sharp, we are unable to say. Anyhow, the effect is exceedingly good and artistic, and we regret only the figure of the policeman in the left-hand corner. The most striking and in some respects the best of these pictures is "The Caskets" (303). The rocks stand in the centre of the picture in the midst of a somewhat choppy sea, which appears to be rising in strength. A vigorous and withal harmonious sky adds not a little to the general merits of the picture. It has been objected that this sky is not in harmony with the shadows on the broken water. But after careful examination we do not think that the objection can hold good. The darker shadows appear to be the result of the cresting of the waves curving away from the source of light, and the only question which arises in our minds is whether the action of the lens has not tended to minimise the size and importance of some of the breakers. The colour of the picture is pleasing, and more so by gaslight than by daylight. "Ploughing" (301) is a rather hackneyed subject, with nothing special to recommend it. "Amsterdam" (302) is uninteresting, patchy, and confusing. In "Cooling his Feet" (300) we have a well-arranged composition, in which a horse stands up to his knees in the corner of a farm-yard pond.

Mr. Wilkinson.—Those who remember Wilkinson's "Sand-dunes" last year will find this time a very different subject, very differently treated. Then there was a tendency to idealise what at first sight might appear a very commonplace, uninteresting, breezy sandhill, rippled by the waves and its scant vegetation half covered from the effect of gales. Now, we have worked out, with sharp lens definition, a quiet walk in the grounds of a monastery, a hot noon-day sun beating on the walls of the enclosure and bringing every brick in them into distinct prominence, and the figure of a Franciscan monk, clad in his brown cowl, the hood of which is thrown over his head, reading from some old and dusty volume as he walks along the partly shaded path. The face, not too deeply in shadow, is very good. It is a suggestive, unpretentious picture, happily imagined and well carried out.

Mr. Gibson.—Mr. Gibson exhibits a large number of frames, many of which might advantageously have been omitted. "Acomb Mill" (68) is one of those crowded landscapes which, in time gone by, might have been thought good, but which in these days will scarcely receive credit of a complimentary character. There is a laboured style about nearly all these works when of landscape and figure combined, or when of pure landscape a topographical interest only, and an extreme sharpness of definition, which are almost out of date, and, of course, would make the pinholists blaspheme. So far as photographic manipulation is concerned they are perfect; perhaps, as photographers, we ought to be altogether contented with this. Whether they completely satisfy artistic requirements, or not, is another question, upon which some will be of one opinion, some another.

Mr. Douglas.—Mr. Douglas, although his name appears to be Scotch, hails from Munich, and sends us from the

classical old German town several interesting pictures. We have before commended the Münchener Kindl (500), and we have space only to notice now "Gewitter Stimmung"—a bullock team ploughing, with a striking and well-intentioned sky—and "Die Fahrer" (497), which is composed with much intelligence.

Mr. Conway.—Mr. Conway's pictures have a style peculiarly photographic, in the sense the word is artistically understood. Pretty scenes carefully selected, figures well

several other figures and groups dotted about. There is too much included, without any object as regards composition, light, and shade.

"The Barren Shore" (E. B. Wain) is a wild bit of coast with mountains in the distance, which would be much better without the dark boat in the foreground. Mr. Birtle's views on the Manchester Ship Canal (192) are well executed, but why is one of them spoilt by a species of vignetting? Mr. C. Court Cole sends a capital interior of a

"AMATEUR PHOTOGRAPHER" COMPETITION PICTURES.



GOSSENSASS.

BY CYRIL S. COBB.

placed, a clean white sky sometimes, or, if not so, somewhat hard and solid clouds, the most accurate representation and reflection of nature, and perfect definition throughout. They deservedly commend themselves to the majority of people, and will have many admirers.

Mr. R. H. Lord.—"A Fen Study" (175) is a large picture of a man fishing from a boat, on a broad. A great dark mass of bank in the lower left-hand corner, a dark mass of trees to the right of the horizon line, brilliantly lighted clouds broken by the tree masses—altogether, not a happy arrangement. "The Grinder" (208) is also a large picture for a somewhat trivial subject; a very pretty village, a knife-grinder in the middle of the road, and

college library (429); one of the best interiors we have ever seen. Miss Roche has a nice little pair of heads, well lighted (411). Mr. Cobb's pictures (367, etc.) are, perhaps, too black and white; otherwise they show careful study and an appreciation of the beautiful. With regard to Mr. J. Collier's groups of Fairies (232—248) we fail to see why arrangements of this kind should be hung in conspicuous places on the walls. They combine most of the worst faults in photography, and are totally devoid of general interest. It is much easier to praise Mr. Collier for his interiors (231). Here we have nature at least, if only *la nature morte*. Messrs. G. West and Sons exhibit some sailing vessels in which conscientious use has been made of all

that is mechanical in photography; the sea, however, is as hard and solid as if it were dry land.

As we intimated in our first notice, we shall have no word of praise for the portrait and studio pictures. The babies sprawling on the floor, of the tripartite composition, are universally condemned, and the stereotyped retouching and painting of the portraits is as marked and reprehensible as ever. All this is as much the fault of the public, who demand the conventional photographic portrait, as anything else. Mr. Lyddell Sawyer concisely explained the cause in his communication to our columns a few weeks ago. It is, in fact, "Shakespeare spells ruin" over again. Will the time ever arrive, we wonder, when the portrait photographer, like the portrait painter, will gain a thorough knowledge of his subject by long and repeated sittings, when it shall no longer be considered that he is repaid by an universally low price of so many guineas per dozen replicas, but when he may make a proportionate charge for his art and study? Is it possible to expect more than we get at present when we consider that sitter after sitter presents himself in the course of the morning, like patients in a dentist's operating room, receives a hasty glance, a selection from a number of stereotyped poses, an adjustment of light, and all is over, save the despatch of the impressed plate to the tender mercies of a purely mechanical developer and printer, further aggravated by the destructive improvements of the retoucher? With regard to the latter, if we considered seriously for a moment, it would be scarcely possible to believe that it is thought to be totally unnecessary that he should ever have seen the sitter.



Letters to the Editor.

DARK-ROOM FOR ARMY OFFICERS.

SIR,—I beg to thank Major Bruno, "Llewon," and "Agricola" for their suggestions on above subject. I must have expressed myself very badly, as my meaning appears to have been quite misunderstood. What I intended was that it should be a permanency to all intents and purposes, with shelves, working table, sink, etc., a small cistern outside with a tap inside. When orders for a move came it would simply be taken to pieces, packed up in a box, or the box might be dispensed with, into a space 41 in. by 21 in. by 12 in., to be put up again at the new station. This is the size of the "Army" dark-room advertised by Messrs. Davenport and Co. Major Bruno's suggestion would not meet this, I think.

I did not mean it to be a sort of changing tent in which developing could be done. "Llewon's" room is most ingenious, and he has used it a long time, but if I might suggest to him, I think he will find the one given in the AMATEUR PHOTOGRAPHER of May 30th, 1890, perhaps still more convenient. It wraps up into 2 ft. 3 in. by 3 ft., and is not a coolie load, viz., 40 lbs. I have used this one during a driving tour of 250 miles in Ceylon, and could not wish for a better. A flooring is not mentioned; stray light may come in at the bottom of the sides, unless you are very careful to tuck in the cloth, and even then you may unintentionally move the whole thing and the light may come in, and the joins of Rest House tables are none too good. I used my focussing cloth, but shall put on a permanent flooring the next time I go on a trip. A ventilator after the style of "Agricola's" is wanted, which I

shall also put. I am afraid my regiment is not going to the Cap after all, as I am sure Major Bruno's assistance would be invaluable, and many thanks to him for it. We may meet some time next year, as I am coming back to the old country then.—I am, sir, yours, etc.,

Colombo, Ceylon, September 19th, 1891.

* * * *

GERMAN CUSTOMS AND DRY PLATES.

SIR,—The above title must have been prefixed in error to the letter of Mr. Grestorex appearing in this week's AMATEUR PHOTOGRAPHER. For the letter of this gentleman is in no sense a reply to mine of last week; nor, indeed, does it bear at all upon the subject upon which I sought information.

I repeat my question: Have or have not the officials of the German Customs authority to demand from amateurs, duty upon English dry plates, which are to be exposed in Germany and taken back to England? Without payment my plates would not have passed the frontier. In France and Belgium there is no such duty. I, too, have travelled over the Continent for the past twenty years, and it is always my practice to declare the contents of my trunks.—I am, Sir, yours, etc.

WILLIAM MANN.

October 9th, 1891.

* * * *

NEW BOSTON SLIDES.

SIR,—I think it my duty to inform Hon. Secretaries of the Photographic Societies of the United Kingdom who are making their arrangements for lantern-slide exhibitions during the coming winter, that the Boston Camera Club (U.S.A.) have sent us another lecture, entitled "The Yosemite Valley," prepared by members of the California Camera Club. This is a gift to the amateur photographic societies of Great Britain on the same terms as "Illustrated Boston," "The White Mountains of New Hampshire," and "In and About Columbus." There are now four complete lecture sets of about eighty slides each—with accompanying lecture, neatly mounted, in type, of American scenery—in free circulation among photographic societies in this country, and which can be lent on application to me.

The only conditions are that the carriage of the boxes be paid at least one way, that an account of the lectures and press notices of the same be posted by societies at once to Wm. Garrison Reed, 25, Kilby Street, Boston (U.S.A.), the Manager of the "Interchange of Illustrated Subjects," and that the greatest care be taken of the slides; any accidents to which as far as possible to be made good, and the same reported to me immediately.—Yours truly,

E. M. TUNSTALL (Hon. Secretary).

Liverpool Am: Phot: Soc., 3, Lord Street,
October 10th, 1891.

* * * *

DEVELOPMENT.

SIR,—With reference to the letter which you published from John Power in your last issue of the above, I shall be much obliged to you if you could insert this note in your next issue, so as he may answer, or give me his opinions on the following well-known developers, viz.:—Lockyer's concentrated hydroquinone developer, Robinson's developer, and eikonogen. Will he state which he should choose out of the above three, and which is the most reliable? Also, as he states he has tried "every developer advertised," perhaps he would inform me which he thinks of the above developers would occupy the second place in recommendation. As I have each of these developers, I shall be glad of an answer before I decide upon one.—Yours faithfully,

October 11th, 1891.

W. H. ELLIS.

EXHIBITIONS.

SOCIETY.	Place.	Open.	Close.	Last date for sending in.	Secretary.
Phot: Soc: of Great Britain	London.	Sept. 23.	Nov. 12.	Sept. 16	H. A. Lawrance, 50, Great Russell Street, W.C.
Phot: Soc:	Hackney.	Oct. 21.	Oct. 22.	.....	W. Fenton Jones, 6, Victoria Street, Hackney, N.E.
Tunbridge Wells	Tunbridge Wells.	Nov. 25.	Nov. 28.	.....	Joseph Chamberlain, 14, Calverley Park Gardens, Tunbridge Wells.
Art Gallery Committee ...	Leeds.	Dec. 7.	Jan. 9.	Nov. 27.	Geo. Birkett, Municipal Art Gallery, Leeds.

Photographic Procedure.

By E. J. WALL,

Author of the "Dictionary of Photography."

SECTION I.

THE CAMERA AND ITS APPURTENANCES.

Testing Instantaneous Shutters (*continued*).

The following method of utilising a clock for the same purpose I have extracted from the "British Journal of Photography," 1888, p. 401, from an article by William Bishop:—

"For apparatus, obtain an old clock (or a new one if preferred; the most common kinds are good enough and cost very little) in which the works are fairly get-at-able, removing the pendulum and detent, so that when wound up the hands will revolve rapidly without the usual step by step motion. The hands are then to be taken off, and the dial either painted black or, better still, replaced by a larger dial of black cardboard with the minute divisions legibly marked in white, so that the circle is divided into sixty parts. It is of course better to divide into a hundred parts if the means for accuracy are available, but the dividing into sixty is easier. A white cardboard hand then takes the place of the minute hand, only one being needed. This is to be broad in shape, tapering to the end, which should be of such a width as to exactly cover one of the divisions. Now for the works; if the clock be driven by a weight, the weight must be increased or reduced until it drives the hand round the dial once in a second; if by a spring, a brake will be needed, which may easily be supplied by a strip of soft leather folded round the spindle of the escapement wheel, and pulled as tightly as necessary by an indiarubber band until the required rate of revolution is obtained. It should be observed that single revolutions cannot be accurately measured; but if when the hand is in full swing a number be taken, it is easy to count whether, say, twenty revolutions are made in twenty seconds, and the average time of each will be very close to accuracy."

Herr Hans Bayer has also suggested the following method somewhat similar to some of the above:—

"It falls nowadays to the lot of every photographer, whether professional or amateur, to work occasionally with an instantaneous shutter. In order to obtain a really clear picture of any object in motion, it is necessary to know beforehand whether the speed of the instantaneous shutter is equal to the speed of movement of the object. Many people will therefore wish to ascertain the speed of their shutters. Now, there are several ways in which the speed of a shutter may be decided; and we can class them into two large groups. In the first, falling bodies are used; and they are photographed during motion by means of the shutter. For instance, sometimes a long blackboard is employed, on which a centimetre

measure is marked in white. A shining metal ball is held on the top mark of the measure, and then dropped. During the fall, an assistant works the instantaneous shutter. A picture is obtained which reproduces the scale, but on it will be found a streak of light, and from its length and its distance from the top mark of the scale, the length of the exposure may be reckoned by the help of known formulae.

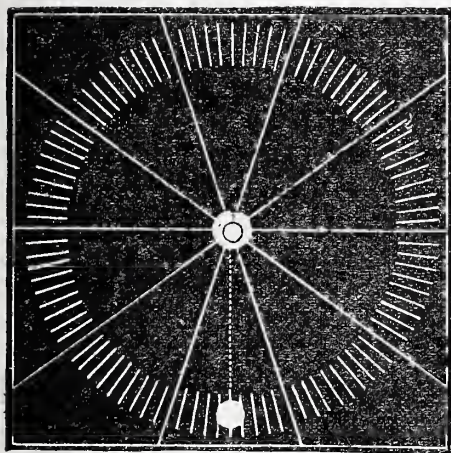


FIG. 73.—FRONT, WITH POINTER AT REST.

This method, originated by La Baume-Pluvinel, was accepted by the Paris photographic congress. It is, however, of very little use in testing very rapid-working shutters.

"The second method is by means of the ascertained speed of shining bodies moving in a circular direction. Such an apparatus has been

constructed by Prof. J. M. Eder; it consists of a heavy wheel of dark wood, which turns easily, and causes the stroke of a bell to sound with every turn. In the centre point, as well as in the periphery, a silver-plated half-ball is fixed. An assistant turns the wheel till the strokes of the bell correspond in time to the ticking of a second-pendulum of a clock. The moment this speed is attained, the photograph must be taken. The picture obtained will represent a light spot on an arc of a circle, and from these two, the length of the arc and the speed of the shutter may be reckoned.

"I have now modified this apparatus. I use a blackboard on which a wheel with one hundred white divisions is marked. In front of it a nickel-plated metal ball, which is attached to an arm, moves. This is turned by means of a handle at the back. With every complete revolution, a little spring on a disc with large teeth cut out of it gives a clear note. This apparatus is placed in front of the camera, and an assistant then begins to turn the handle. In a short time the ball acquires an impetus, and it is then possible to make a perfectly even revolution, though the handle be turned slowly. The quicker the instantaneous shutter works, the quicker it must be turned, in order to get accurate results. By counting the seconds, one, two, or three turns a second can easily be made, as every turn is marked by the note of the catching spring. When the desired speed is attained the instantaneous shutter must be worked; or, if testing the speed of magnesium flashlights, the apparatus put in action.

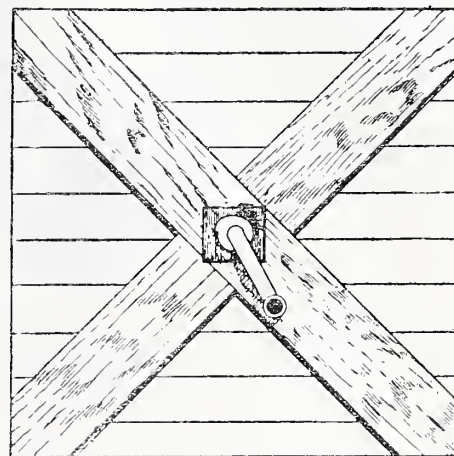


FIG. 74.—BACK, WITH HANDLE AND SIGNAL APPARATUS.

"The picture thus obtained consists of a representation of the board with the white divided circle, and on the latter will be found a white, sharply-defined arc. The length of the arc will be measured on the circle, and must be divided by one, two, or three, according to whether one has made one, two, or three turns per second during the exposure. For instance, if the arc is the length of six divisions, and one turn per second has been made, it gives $\cdot 06$, or about $\frac{1}{16}$ of a second; if two turns have been made, it will be $\cdot 03$, or about $\frac{1}{32}$ of a second; by three turns it will become $\cdot 02$, or $\frac{1}{50}$. The great advantage of this apparatus over other methods is, that any more complicated reckoning is done away with; a glance at the negative obtained is sufficient for ascertaining immediately the exact speed of the instantaneous shutter. The apparatus must be handled with intelligence to obtain accurate results. In the tests which I have made it has given uniform results with the same shutter with mathematical precision."

View Finder. See FINDER.

View Meter.—A view meter is used to enable one to choose and arrange the composition of the picture, or to enable one to judge of the possibility of making a picture of any scene without unlimbering the camera.

The simplest and the truest view meter is the camera itself, and to use this unscrew the lens from the flange, place the eye at this aperture and fold back the focussing screen; the amount of view thus seen by the eye included in the rectangular opening at the back of the camera is what would be included by a lens of a focal length equal to the distance between the eye and the back of the camera. A commercial view finder introduced by Messrs. Reynolds and Branson, working on somewhat the same principle, is shown in fig. 75; with this the eye is placed at the small pinhole in the upright portion A, the view being bounded by the rectangular apertures C C, and the distance from this aperture to A will give at once the focal length of the lens to be used to include the same amount of view.

Different sized apertures may be used for the different sized plates. The following is the description of an instrument described some years back which I included in the "Dictionary of Photography":—"Obtain two brass tubes $2\frac{1}{2}$ in. long and $1\frac{3}{4}$ in. diameter, one of which is made just a trifle smaller than the other, so as to slide within it. The diagram, fig. 76, will explain the method of making this useful little instrument. A B C D, a brass tube bearing at one end a cap in which is an opening G H, bearing a proportionate size to the plate used; for instance, for quarter plates, or $4\frac{1}{4}$ by $3\frac{1}{4}$, the opening may be $1\frac{1}{2}$ by $1\frac{1}{8}$ in.; or for half plate $2\frac{1}{8}$ by $1\frac{1}{2}$. This opening frames the view and limits its extent according to the distance the inner tube is drawn out. E F I L is the other brass tube sliding inside A B C D, having at one end a double concave lens, E F, of $1\frac{1}{2}$ in. focus, and at the other a double convex lens, M, of 3 in. focus; when the eye is applied to the convex

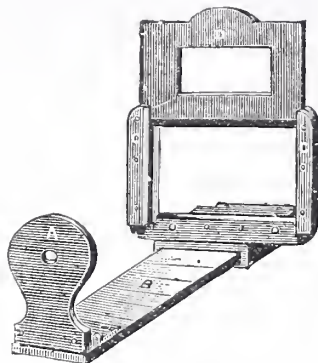


FIG. 75.

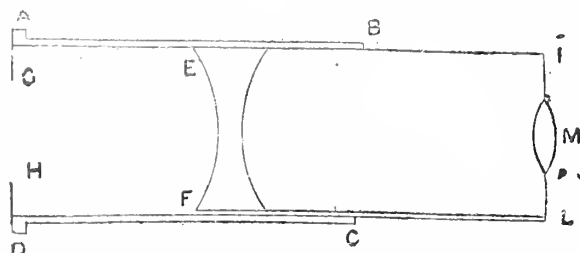


FIG. 76.

lens, the picture is viewed in miniature. P will show front view of cap. To use this it must be adjusted to the lenses with which it will be worked. To do this it is only necessary to erect the camera, focus carefully, and marking two prominent objects on the edges of the screen adjust the small view meter till the same objects are exactly on the edges of the field of view in that. Now mark on the inner sliding tube with a knife or file the exact point to which it was pulled out or in, and this will always include the amount of view included by that lens. By fastening two fine wires across the cap P, as shown by the dotted lines, it will serve well also as a view finder, as, when the moving object is at the point of intersection of the crossed wires, it will be in the centre of the plate."

(To be continued.)



Hardcastle's Platinum Paper.—A lady correspondent writes:—"Very good blacks can be obtained with Hardcastle's paper, and I think the samples I enclose will show that this is the case. It is very carefully packed when sent out, and is thoroughly protected from damp, to which the paper is very sensitive, and easily spoils under its influence. When I hear of 'grey blacks,' and flat poor results with this paper, I believe it is entirely owing to carelessness in keeping it after the packets have been opened. The process is so very simple and the results so good, that surely a small amount of care may be bestowed upon keeping the paper in good condition until required for use."

Instantaneous Photography.

BY W. JEROME HARRISON, F.G.S.

CHAPTER XV.

DEVELOPMENT—Continued.

Treatment for Over-Exposure.—With the weak developer we are using, if an image appears within two or three minutes, it is probable that the plate is over-exposed. This happens more often in instantaneous work than one would imagine. But when we say "the image," we mean the picture generally, and not the high-lights only—as the sky. In cases of absolute over-exposure the plate should be at once removed from the developing dish, and soaked for a few minutes in a weak (say three per cent.) solution of citrate of ammonia. It may then be returned to the developing dish, and development completed as usual. Or a drachm or so (if the over-exposure is only moderate) of the citrate may be added to the developing solution. Messrs. B. J. Edwards sell what they call a "Pyro Re-developer," in two solutions, which we find excellent for all cases of over-exposure.

Correct Exposure.—Should the exposure have been fairly correct, it is probable that no sign of an image will be visible after the lapse of three or four minutes. Now strengthen the developer by adding ten minims more of the ten per cent. solution of ammonia. Faint outlines of the brightest objects now appear. Repeat the dose of ammonia; more detail makes its appearance. After waiting another three minutes, add pyro solution 20 minims, ammonia 20 minims, and bromide 10 minims. It is quite possible that this may be sufficient to complete development; but if it is not, the last dose may be repeated once, twice, or even three or four times.

Under Exposure.—With cases of under-exposure *patience* is an important factor. If no image appears after the second addition of ammonia to the developer, wait patiently for ten or fifteen minutes. Use a light-tight dish-cover and a dish-rocker, and go about some other work for half an hour or so. When the image does appear, strengthen the developer very gradually, and keep the quantity of pyro down. The thing to be dreaded is a hard black and white picture, void of detail in the shadows. It is sometimes useful to remove the negative from the developing dish, rinse it and leave it to soak for ten minutes in a very weak solution of ammonia—say one ounce of the ten per cent. solution diluted with nine ounces of water. It should then be returned to the developing dish, and development completed.

But in most cases of *considerable* under-exposure, it is best, unless there be a reason which makes "some sort of a picture" specially desirable, to clean the film off and take another negative.

Local Development.—When parts of the negative (the dark parts or shadows of the original objects) remain obstinately white, it is a good plan to gently rub each finger upon them in turn; the warmth of the skin assists development. If this fails, the negative should be removed from the dish, held close to the mouth, and breathed upon forcibly, or a small tube of paper may be used to convey the warm breath to the desired spot. In addition to these plans, it is of great use to gently *brush* the under-exposed parts with the weak solution of ammonia, which it has already been stated should be kept upon the developing table for that purpose. Of course, the negative should be immediately returned to the developer after any of these methods has been tried. For over-exposure, the weak bromide solution should be applied with a brush to the parts

which are darkening too quickly, as the distant mountain in a landscape, a window in an interior, etc.

"Mixed with Brains."—There has lately been a disposition on the part of some workers—scientists and artists, not photographers proper—to consider development as an automatic operation, and to urge that "everything depends upon a correct exposure." But it is a matter of every-day experience that of two plates exposed upon the same subject, at the same time and under precisely similar conditions, one may (by the skill of the operator) be made to yield a satisfactory negative, capable of producing a good print; while the other (by the want of skill of operator No. 2) shall be one of those parodies on our art which are the scorn even of the critics. "Practice makes perfect," but not mechanical practice; every negative developed ought to add to the skill of the operator. During the first year of one's work, during the development of one's first two or three hundred negatives, it is probable that any good results which may accrue will be rather in spite of our efforts than because of them.

But surely everyone expects to serve an apprenticeship to photography, and to "pay his footing" in the form of spoilt plates. Dry plates are cheap—perhaps too cheap—so don't grudge the expenditure of those which you "throw away" while learning. They are not wasted if they have taught you something. We agree entirely with Dr. Emerson's advice to develop as soon as possible after making the exposure and while the scene itself is fresh in the mind's eye. Then endeavour, by using your developer like an artist does his brushes and paints, to make the negative represent as truly as possible that which you saw in nature.

Development by Pyro with Carbonates.—We may use either carbonate of soda alone, or carbonate of potash alone, or a mixture of the two. With old plates, or with an inferior make of plates, we consider that the carbonates are to be preferred to ammonia for use in development, for they do not give the varieties of green fog which such plates are apt to show when developed with ammonia. It need scarcely be said, however, that we do not recommend the use of such plates for instantaneous photography.

The Pyro Potash Developer.—A ten-per-cent. solution of potassium bromide (to act as a restrainer) should be prepared in the way already indicated. Next dissolve one ounce of carbonate of potash in sufficient distilled water to make the whole up to ten ounces; this will be a ten-per-cent. solution. Have the dry pyro at hand as before.

We begin with a weak developer. Place one grain of dry pyro in a glass measure, pour over it two ounces of distilled water which has been boiled and allowed to cool; then add a quarter of a grain per ounce (= 5 minims) of potassium bromide and half a minim (= 10 minims of the ten per cent. solution) of the potash solution. Pour this mixture over the negative (which we will suppose to be a single quarter-plate in a quarter-plate dish), and "wait for the march of events." After three minutes, if no trace of a picture has appeared, add twenty minims more of the ten per cent. potash solution. It is a safe rule never to strengthen your developer while the picture is growing; but as soon as details cease to appear, add more pyro, more bromide, and more potash. If the plate has been correctly exposed, the final developer will be somewhat as follows:—

Pyro	2 grains
Carbonate of potash	8 "
Potassium bromide	$\frac{1}{4}$ grain
Distilled water	1 ounce

This may be called the average or standard potash-pyro developer. It is practically the same as that which has long been associated with the name of the American amateur, Mr. F. C. Beach. For ordinary work it is improved by the

addition of 4 gr. of sulphite of soda. For under-exposure the amount of potash indicated may be increased to 16 gr., or double the amount stated. The restraining influence of a bromide is much more effective with the carbonates than with ammonia, so that much less of this "antifogging" ingredient need be added. Indeed, where it is certain that the plate is under-exposed the bromide may be omitted altogether; but in that case only a small quantity of the potash must be used. It will be found that the energy of potash carbonate as a "whip" does not increase in proportion to the amount. Doubling the quantity of the potash does not double its effect, and it is of little use to increase the quantity to beyond 16 gr. per ounce of developer. Give it time instead. One fault of this developer is that it is rather liable to cause frilling; if this happens, the various solutions must be cooled by means of ice. Potash gives "pretty" negatives, which are of a good colour; it also brings out detail well.

(To be continued.)

How I Started a Successful Society.—VII.

BY A PROVINCIAL.

(Continued from page 261.)

HAVING said my say about recruiting, reporting, and advertising in the last preceding article, I will shortly discourse on the subject of the executive of our Society, hoping that my remarks may be of use to other boards of management.

Inasmuch as we enjoy the advantages of a ruling President, a kind of King Stork who hungers not for frogs, a large share of the functions which usually fall to the other members is taken off their hands. How much, then, it may be asked, remains for them? A good deal.

Firstly, they have to suggest or criticise, deliberate, and decide; secondly, they have to authorise, and sometimes they have to approve actions *ex post facto*. So much for the executive in its corporate capacity.

But it is, after all, the individuals of our executive who are of most use in the conduct of the affairs of a Society.

To begin with the Secretaries, of which we have two.

Between them they keep the books, *i.e.*, minute books, and the account books; they receive and check all accounts, bring them before the committee, and when authorised pay them; they receive subscriptions and give receipts therefor, send out the various notifications which occasion demands, such as notices of ordinary and committee meetings, excursions, invitations, notices of elections, applications for subscriptions due; and generally conduct all correspondence not undertaken by the President.

Besides this they are *ex officio* members of what we call the "house committee," whose special care is to see to the proper ordering of the lighting, warming, decorating, furnishing, cleaning, and otherwise giving due attention to all that pertains to the apartments of the Society; this Committee also provides suitable measures, dishes, and lamps in the dark-room, and such apparatus as is called for by those who give demonstrations at the regular fortnightly meetings.

From a consideration of the foregoing it will be conceded that "week in, week out," the honorary secretaries have their leisure hours tolerably well occupied by the ordinary routine. At times, in addition to the above, there is a great augmentation of work due to special but transitory causes.

Here let me say that in our case I consider the continued success of our society is mainly due to the hard, varied, and unremitting toil of our secretaries, fortified by the help given by members of the committee. I fear that the many hours of labour lavished by these two gentlemen for the society's benefit are inadequately appreciated by the rank and file, and their services but ill-requited. Stop—there is one reward which no one can withhold from them; I mean the recompense bestowed by Dame Experience; in other words, the training undergone while filling such offices as the above is not merely a valuable exaltation of habit and knowledge, but is, or may be, the stepping-stone to those

higher things which the future has in store for most of us, if only we are ready to take them when smiling Fortune holds out her hands full of gifts.

Before leaving the subject let me remind the president of any society whose constitution resembles ours, to bear in mind what is too often forgotten, *i.e.*, he is not made of a superior clay to the rest, but is only *primus inter pares*, and that may be he is elevated to the post of director mainly because a better man cannot spare the time, or for some other similar reason. Therefore I enjoin upon presidents to exercise their powers discreetly and gently; they should remember they are not masters, neither are the others servants, and all care should be taken to devise such expedients as will minimise the labour devolving upon the secretaries, for it is to be remembered that these latter are not hirelings, but altruists; which fact should also be borne in mind by the rank and file.

Next we come to the subject of the annual meeting and the report.

I dare say that there are a fairly numerous section of societies who have no report at all, for the simple reason that they have nothing to report. Such institutions have my sincere condolences, for although it has been wittily written, "Happy the country without a history," such cannot be truly said of a photographic society. Of course, one can have too much of history, as of any other good thing, as, for instance, take the case of the Photographic Society of Great Britain, who would, without doubt, be glad if certain passages had remained unwritten. Well, such societies as have the power to make history usually desire to have their deeds recorded, or, as at Versailles, their *victories*, and this is done in the annual report.

The document in question is generally presented in the name of the committee, but I need not say that the latter does not write it. Committees have before now tried, but in vain, to write a dictionary, and have attempted to compose a novel with great failure; but I do not recall any committee undertaking to compile a history, not even the history of a society's proceedings.

The task is of course delegated to an individual, who writes what he lists; subsequently the committee overhaul the composition, suggest improvements, and finally approve it, after which it is ready for the members' annual meeting.

For the benefit of those who may undertake the duty of recorder, I jot down a few words about our first annual report.

It described the formation of the society, and the steps taken by the *pro tem.* committee, and included the roll of "original" members. It gave a list of the meetings held, and the subjects thereof, also particulars of the summer excursions. It detailed the facilities available to members, and mentioned the names of all those who had presented sundry fittings, furniture, etc., etc. It recorded the thanks due to judges, editors, and other outsiders, and touched on the subject of finances, which, in our case, showed a balance to credit. [The balance-sheet should be audited by competent and uninterested gentlemen.] It embodied the estimate for the coming year, and also a rough programme. Finally it presented a list of those members recommended for election on the executive.

There is nothing particular in the above paragraph which calls for elucidation. I have already in a former article of this series explained why a list of members for election should be drawn up, to which I refer any reader inclined to demur to the practice. Respecting the estimates, I would counsel all concerned to be well within the mark, and leave an ample margin of receipts over expenditure, for it is to be borne in mind that all societies have to reckon with that unpleasant source of weakness known as "leakage." For instance, if the membership is, say fifty, and new members join at the rate of twenty-five per annum, the net total at the end of a year will not be seventy-five or anything like it. There are removals, deaths, and disillusionments to thin the ranks.

By disillusionments I mean that those who are by nature ungregarious, *i.e.*, unfitted for fraternisation with their fellow-creatures, and those who expect all the possibilities which might be imagined for 10s. 6d. a year, find out the truth, and depart. Peace be with them!

Besides the above there is a section, happily small, of backsliders composed of those who join to get free instruction in the elements, or in some branch or other, and who having, as they in their feeble fashion think, sucked the society dry, at the small price of half a guinea, show their gratitude by promptly resigning, perhaps better sooner than later, for these are not such as help

in the building up of anything, not even their own welfare. We must not forget to include the men who won't or can't pay their subscriptions. To deal with such (and also with others of whom it is desired to be rid) we have a grand rule fenced in by many restrictions; but, in practice, all we do is, after making numerous applications, to put a pen through the defaulter's name and cease to consider him a member (this is, of course, only done after full consideration by the committee).

Our first annual report being read, put to the meeting, and duly adopted, the executive resigned their powers, and the president vacated the chair, which he had until then occupied, but was immediately re-elected chairman in order to preside over the further proceedings. Our elections were then held without any particular trouble arising. We used what care we could in filling up vacancies, because it is sometimes not enough to have good working members on the management, but in addition a small leaven of others, who, by virtue of their position, etc., can render aid of a different sort.

In making out our list of those proposed for election we found that while the best men often needed considerable persuasion before they would consent to serve, others who were not merely negatively unsuitable but positively obnoxious and detrimental required a considerable dowsing of cold water to cool their ardour; in point of fact, the only safe procedure was felt to be the presentation of a complete list, so that any one disapproved would have practically no chance of election.

It is to be remembered that a committee often may know very cogent reasons why a particular candidate ought not to be elected on to the management, and yet may not feel at liberty to explain them to members at large. When a committee has such reasons it would be thought that the impugned candidate, knowing this, would not venture to put himself forward; but in practice it will be found that some do venture if they get an opportunity.

Allusion has already been made to the policy of providing something over and above the business of the evening which will serve to attract members. There are, of course, numerous forms which this may take; in our case it assumed the shape of a small exhibition of prints.

In my next I have a few observations to make about the special evenings we arranged in the "salad days" of our society.



Thursday Evenings at the Camera Club.

BY ONE OF OUR STAFF.

THERE was a great gathering at the Camera Club on Thursday (8th inst.), when the first of the season's "Thursday Evenings" was held. The alterations in the large room are not numerous, but they are effective, the principal being the substitution of a number of incandescent electric lights for the original two sun-lights. The effect was very fine, and it also resulted in the room being kept much cooler than was the case with the gas. The light, however, was not quite so steady as it might have been, in the sense that several times during the evening it became lower, and after a short interval got brighter again. Probably the supplying company will be made aware of this, and some measures may then be taken to prevent it in the future.

The great attraction of the evening was the promise of a paper by the President, Captain Abney, and naturally something good was expected from him. And his audience were not disappointed, though probably what they did hear was most unexpected. Mr. Stroh occupied the chair, and previous to the reading of the dapper Mr. Davison handed round some specimens of the work done by the Art Colour Photograph Company, of which we have spoken in previous issues. The President was then called upon, and he began by giving the warning that he had nothing new to tell them, but after puzzling his brain for some time for a subject he determined to talk to them about "Light." He dealt with it first from a visual point of view, and then detailed some experiments he had made to ascertain the photographic value of various lights, and stated that they could directly compare the light of the sun with that of the candle, by means of an apparatus which he described. The photographic value of sunlight on a bright June day at mid-day was about 118,000 candles; at an inclination of 30 deg., 52,000; 20 deg., 42,000; 10 deg., 9,000; 8½ deg., 5,600; sunset, 1·7 candles. Those figures showed that

photography by sunlight at this time of the year was difficult. The light of 120 000 candles at one foot distance would take one minute to make a print. A gas-light of 100 c. p. would therefore take 1,200 minutes to give a print, while a 20 c. p. light would take 100 hours. Moonlight, when most brilliant, was about 400,000 times less than sunlight in summer, so that to get a print by moonlight, except by development, was impracticable. One electric-light candle was equal to 10·7 standard candles, and one grain of magnesium was equal to 21·3 standard candles burning for one minute. A blow-through oxyhydrogen light was photographically equal to two standard candles, though it should be equal to 400 visually; 1,150 electric-light visual candles were equal to 12,300 photographic candles, and to four times magnesium light, each printing for one minute. Thus, 12,300 electric candles were equal to one-tenth of sunlight, and it would therefore take forty minutes of the electric light, or the burning of 4,960 grains of magnesium one foot away, to equal sunlight. Leaving this somewhat intricate part of the subject, the President came to the description of an enlarging apparatus which he used for enlarging from quarter-plate negatives direct on to $7\frac{1}{2}$ by 5 platinum type paper. He had two condensers of 9 in. focus, $10\frac{1}{2}$ in. apart, and used an arc light of 1,150 c. p. The paper was about 2 ft. from the arc light, and the printing took about twenty-five minutes. He handed round some quarter-plate prints and some of the enlargements, and in each case the latter were better than the former, the reason suggested being that the negatives were rather thin, but were practically intensified during the process of enlargement. They must recollect that if there were scratches on the film they must not put it close to the condenser, or they would show on the enlargement. If there were abrasions on the film they would show considerably also. To cure that, they must soak the negative in water and the abrasions would disappear. They could use sunlight in the same way, only one condenser would then be necessary, and it was important that the light should enter the lens itself, and an ordinary looking-glass from the bedroom could be used to reflect it. The sun, instead of taking twenty-five minutes to do the enlargement, would only take three if it were bright.

At the conclusion of the paper the Chairman said that if it were a fact that the President had told them nothing new, it was a great advantage to have those lights relatively measured. Professor Lambert, who very meekly classed himself amongst the ignoramuses, asked if it were possible to measure a white and a yellow light by means of the grease-spot photometer. Here the President had a shot at the grease spot; he did not like grease in any form, and never worked with that photometer. As a matter of fact with his oscillating sector photometer it was easier to measure lights of different colours than two white lights. Mr. Lyonel Clark had never thought of enlarging direct on platinum, but considered it would be of great use. He supposed the condensers were $10\frac{1}{2}$ in. apart for the purpose of keeping the conjugate of the light on the lens. The President said that was the reason; he found that he got better illumination with them at that distance. He hoped it would soon be possible to have the electric light for the purpose at the Club.

Incidentally it was mentioned that bromo-iodide plates were the best for enlarging from, as they showed less grain than ordinary plates, and that the eikonogen developer gave a finer deposit than pyro. The Chairman suggested that if, in enlarging with one aperture a certain exposure were necessary, with an aperture half the size more than four times the exposure would be required. He had an impression that there was an aperture so small that the light had no effect at all. The President pointed out that the stops were calculated for parallel rays, and, therefore, when they were used for enlarging the same rule would not apply. As to the size of the aperture, there was none which the photographer would ever use which would absolutely prevent chemical action. Captain Abney having attacked bromide papers for their evil qualities, Mr. Davison said, if no one else would do so he would say a word in defence of them, and he asked Captain Abney if the rough bromide paper, as seen in Mr. Dresser's pictures at Pall Mall, was not better than the old bromide paper in respect of the matter under discussion. The President said he had not seen those pictures. He did not like bromide paper, but if they could get bromide paper which would show the paper through the bromide they would have done something. The subsequent laughter seemed to indicate that there were few sympathisers with bromide present. The question arose as to whether

the electric light could be used in the studio for enlarging, but doubt was expressed as to whether it were sufficiently powerful or not. Captain Abney said he used a current of 80 volts; the voltage of the current at the Club was 100, that would be perfectly safe if a safety fuse were put in.

The first meeting of the season was a decided success, and there is little doubt that we shall see much of direct enlargement on platinum type paper in the near future.

On Monday, October 19th, the first of the series of elementary lessons will be given by Mr. Lyonel Clark, the subject being "Lenses."

On Thursday, October 22nd, the subject will be "Reversal," when Mr. Henry Sutton will give a paper with illustrations and demonstrations.



"Amateur Photographer" Monday Evenings.

THERE was a crowded audience at the second of the series of Monday evenings, which took place on Monday last, there being over a hundred present to hear Mr. Valentine Blanchard describe and demonstrate his "Platinum Black Toning Process." In the absence of Mr. Charles W. Hastings, Editor of the AMATEUR PHOTOGRAPHER, Mr. F. H. Atkins occupied the chair, and introduced the lecturer in a few words.

Mr. Blanchard, before giving a practical illustration of the process, said that he first introduced and worked it about three years ago, but he had found it necessary to alter some of his methods in the light of subsequent experience. For instance, he found originally that if the prints were only slightly washed before placing in the toning bath they toned much more rapidly, but he also discovered that under those circumstances the prints were not so permanent. He would impress upon those who used the process to be very careful to remove all traces of free silver before placing the print in the toning bath; the removal would be considerably accelerated by adding some common table salt to the third washing water. The prints (some of which were handed round) should be considerably over-printed, as they were much reduced in the process of toning, and if on toning they were found to be too dark, they could be reduced by leaving them in the toning bath for a long time. The paper would keep well without exceptional precautions, some of those which he would tone having been printed eight months before and simply placed in a dark drawer in a dry room. The prints were then washed in several changes of water and transferred to the toning bath, which was made up of 2 dr. of each of the solutions (supplied by Mr. Blanchard with his paper) added to 4 oz. of water. In a few seconds the prints were fully toned, completion of the process being shown by the fact that the picture looked black by transmitted light; by stopping toning before that point, which could be done if more water were added to the bath, other tones could be secured, but as the warmer tone was caused by imperfect substitution of platinum for silver, he could not recommend it, the permanence of the prints depending on the complete substitution of platinum for silver. He would point out also that his toning bath could be used with ordinary matt-surface paper as well as with that he supplied, and that his paper could be toned with Lyonel Clark's platinum toning. There was another important advantage about his toning bath—it would keep. The one he used at present was the one he made up three years ago, all that he had done being to add a little of the platinum solutions occasionally. When the toning was completed, the prints should be washed, and then placed in the hypo bath of the usual strength, and left there for a quarter of an hour or twenty minutes, and after that should be thoroughly washed, and the process was complete. He might say that in the event of any spots on a print not toning, all that was necessary was to leave the print in the bath until they did, which they would surely do; it would be simply the case of the hare and the tortoise. He would strongly recommend that printing should always be done slowly, that being an element of permanency in any printing process.

There was on view in the room a fine portrait of Mr. Hastings, taken by Mr. Blanchard and printed by his process, the lecturer also handed round a number of mounted prints, which showed the various tones which could be given on the old paper. He said

he was preparing a new kind of paper for sepia tones, and there were smooth and rough surfaced papers in both kinds. The lecture was thoroughly enjoyed by the audience, which included many ladies, and a number of questions were answered by Mr. Blanchard, who, in the course of the replies, said that his process cost about one-fifth less than the platinotype process, and had the advantage of being a print-out process. The toning-dish was handed round, and considerable surprise was expressed at the rapidity of the change of colour in the print. The pictures by Mr. Robinson and Mr. J. P. Gibson, now on exhibition at Pall Mall, were done by his process, and were very good examples of it.

At the conclusion a hearty vote of thanks was, on the motion of the Chairman, accorded to the lecturer.

* On the 26th inst. there will be an exhibition of the AMATEUR PHOTOGRAPHER Monthly Competition Lantern Slides.

Quarterly Examinations in Photography.

Question 4.—What is the angle included by a lens of $8\frac{1}{2}$ in. focus on a quarter-plate, half-plate, and whole-plate? How do you find this out?

ANSWER.—The angle included by a lens of $8\frac{1}{2}$ in. focus on a quarter-plate is 28 deg.; on a half-plate, 42 deg.; on a whole-plate, 53 deg.

Rule 1.—If you wish to be very exact, and happen to possess a table of natural tangents, divide half the base line of the picture by the equivalent focus of the lens, find in the tables under the heading "tangents" the same number as the quotient, and the corresponding angle, multiplied by two, is the angle included in the picture. By this rule the angles are, for quarter-plate, 28 deg. 4 min.; for half-plate, 41 deg. 50 min.; for whole-plate, 53 deg. 8 min.

2.—Divide the base line of the plate by the equivalent focus of the lens, and refer to a table given in Wall's "Dictionary," page 11 (first edition). By this table the angles are, for quarter-plate, 28 deg.; for half-plate, 42 deg.; for whole-plate, 53 deg.

3.—If you do not possess a table of tangents, or that given in Wall's "Dictionary," upon a sheet of paper draw a line equal to the measure of the base line of the picture, bisect this line, and let fall a perpendicular exactly equal in length to the equivalent focus of the lens; join the extremity of the bisected line and perpendicular by another line, apply a protractor, and measure the angle included between these two lines, and the angle read off, multiplied by two, is the angle included in the picture. By this method the angles worked out as above given, and correspond to the nearest degree obtained from a table of tangents. The ordinary protractors in a case of mathematical instruments are too small for very exact calculation, as the thickness of a pencil line is nearly equal to the measure of a degree.

MONDS.

Question 6.—Describe the different methods of emulsion making, and state the most suitable for an amateur.

As no satisfactory answer has been received, we supply the following:—

There are three principal methods of emulsion-making: (1) The ammonio-nitrate method, (2) the acid boiling process, (3) cold emulsification.

(1). The ammonio-nitrate method was first described by Eder, and consists in the main of converting the nitrate of silver into the double ammonium salt and the formation of the sensitive salt at a temperature of 45 deg. C., at which temperature the emulsion is allowed to ripen for 30–45 minutes by placing in a water-bath of that temperature, and protected from cooling by cloths or other devices. The emulsion is allowed to set, gradually broken up, washed, drained, remelted, and after the addition of a little chrome alum and free bromide, coated on plates. This method gives plates showing 17–18 deg. Warnerke, and from the simplicity of mixing, and the fact that no direct heat is required after the mixing makes this the most suitable process for an amateur.

If very sensitive plates are required by this method, the temperature of the emulsion must be 50 degs. C. when mixed, and that temperature maintained for three-quarters of an hour, or the time may be increased and the temperature lowered, and the setting of the emulsion may be delayed. A modification of this method is by adding citric acid to the nitrate of silver and solution of the resultant precipitate of citrate of silver in ammonia.

(2) The acid boiling method gives soft working emulsions of sensitiveness varying from 15–23 Warnerke, according to time of boiling. The chief points in this process are mixing of emulsion

made distinctly acid at 60 degs. C., and maintenance of this heat for from 30–60 minutes.

(3) Cold emulsification. Henderson's is the best known cold process; the main points of this are mixing of emulsion at low temperature, the bromised gelatine containing free ammonia, allowing the emulsion to set and stand for a certain number of hours at ordinary temperature to ripen. As the progress of this depends upon the temperature, which is never constant, it is obvious no constant results can be obtained.

The principal other methods are: (a) Monckhoven's, in which the emulsion is mixed, ammonia added, and the emulsion digested for a given time at 30–40 degs. C.; (b) Ooermetter's cold process, in which a jelly of citrate of soda and silver and gelatine is allowed to macerate in a solution of bromide, the sensitive salt being gradually formed; (c) separate precipitation of sensitive salt and emulsification in gelatine. A modification of this plan consists in the use of the centrifugal separator; thus an emulsion may be cooked for a considerable period, and the highly-sensitive salt thus obtained separated from the gelatine partially decomposed by the heat, and re-emulsified in fresh gelatine.

There are numerous modifications of the above, but they form the groundwork of negative emulsion making. It was not our intention to enter into the boundless field of emulsion making for positives, or collodion.—THE EXAMINERS.

THE PARD.—(4) The angle included on a plate is measured, not by the diagonal, but by the longer base, e.g., $8\frac{1}{2}$ for a whole-plate. (6) You hardly grasped the gist of the question. See published answer.

FALE.—(6) We did not want particular formulæ for emulsions, but rather a *resumé* of the leading methods of making the same.

PEN.—See note to Falk (6).

CREW.—(4) Your calculation is wrong. $8\frac{1}{2} \div 8\frac{1}{2} = 1$ ∴ the angle is 53 degrees. (6) See answer to Falk (6).

ENALOF.—(6) See note to Falk (6).

BRENT.—(4) Your angles are wrong. See published answer. (6) See answer to Falk (6).

MONDS.—(6) Your answer is incomplete.

AUGESCO.—(6) Unnecessary to include collodion emulsion processes. See, also note to Falk (6).

THEO.—(6) See answer to Falk (6).

FLARE SPOT.—(6) See note to Falk (6).

BURY.—(6) It was a pity to omit this answer; you could have had a day's grace.

QUESTIONS.

(For Questions 13, 14, and 15—latest day for Answers, Oct. 26th—see last week's issue.)

16.—Forward an enlargement from the negative in your possession (limit of size, 12 by 10).

17.—Some prints will be forwarded to each competitor, who must report fully on them as to artistic and technical merit, and forward the report to the examiner and the prints to the address sent him.

18.—Give a formula for reducing negatives, lantern slides, and bromide prints.

Latest Day for Answers, November 2nd.

RULES.

1. Answers must be received on the date stated each week in the AMATEUR PHOTOGRAPHER.

2. All answers must be preceded by the question, and should be written on one side of the paper only, and each answer must be on a separate sheet or sheets.

3. A *nom de plume* may be used, and must follow every answer, and be affixed to every specimen of practical work.

4. Answers are not limited in length, but preference will be given to concise answers without unnecessary amplification.

5. Those desirous of competing must apply to have their names entered. As these examinations are intended to encourage the study of the theory and practice of photography, authorities upon photographic matters and contributors to the photographic journals will not be allowed to compete.

NOTE.—No information of any kind will be given to competitors, and nothing but the answers must be included for the examiners. All other communications must be addressed to the Editor.

Marks will be given for all answers, and, when possible, the three best answers will be published. The answers will not be published till the week following receipt of the same, and the examiners will criticise each answer sent in, and when no satisfactory answer is received, will supply one. Three prizes will be awarded at the end of each quarter. (Full syllabus on application.)

All communications to be addressed to:—"EXAMINATION DEPARTMENT," AMATEUR PHOTOGRAPHER, 1, CREED LANE, LONDON, E.C.

Fry Manufacturing Co.'s Demonstrations.—The firm write us:—"Very much obliged for your kindly paragraph. The only Editor who has said something more than the 'bare fact.'" The first demonstration will be given this (Friday) evening.

Messrs. Adams and Co. have on exhibition at their premises, 26, Charing Cross Road, from the 12th to the 17th inst., a collection of prints of the whole of Anschutz's instantaneous pictures; they number over 1,000, and include pictures of men running, soldiers marching, dog running, horse leaping, bird flying, man jumping, camel running, etc., etc.

Notes from the Edinburgh Centre.

BY OUR DISTRICT EDITOR.

Now the summer has gone, taking the light with it, amateur photographers, who, as a class, have been dispersed over the face of the globe in search of the charming bits they love to image upon their plates, have returned to their more permanent quarters in the city, and the cessation of their solitary labours in the country has scarcely taken place when the more social activity of the winter season has been entered upon. The past summer was not one which will rank high in the esteem of amateur photographers. There were too many wet days, and too much absence of light and clearness of atmosphere for the production of a large crop of high-class photographs. The number of spoiled plates must be enormous, particularly with those who depended upon hand-cameras. In these northern latitudes the light is generally so poor, and dull days are so frequent, that he who would wield a hand-camera to advantage must be well-appointed with a thoroughly efficient lens and the most rapid of plates. It must have occurred to many of your readers that none of the makers of hand-cameras send forth, as illustrations of what their apparatus can do, any of the many characteristic and widely-known views of Scotch scenery. If an illustration is sent out it is almost certain to be either a view in the basin of the Mediterranean, or, at the most, in the extreme south of England, where the light is stronger than here. To speak generally, a snap-shot, to produce an effective picture in Scotland, should only be attempted between, say, 1st April and 30th September, and even within that period not, on any day, before 10 a.m. nor after 4 p.m. In the morning and the evening the light in the shadows is too poor to bring out detail, and many a good picture has been spoiled on that account. There are, of course, exceptions to both the above conditions. In the first place it is possible to find a very bright day in winter, say during a snowstorm, in which a snap-shot would be a suitable exposure; and, in the second place, it is possible to find a land view, and particularly a sea view, in which the shadows are very subordinate to the lights, and in such cases an earlier or a later exposure than the hours I have mentioned would be permissible. For all general purposes, however, such as street scenes, town or landscapes, and portraiture, the limits I have stated cannot be overstepped without the certainty of a very large proportion of spoiled plates.

The Edinburgh Photographic Society held their first meeting of the season, which technically is the last meeting of the past session, in Dowell's Rooms, 18, George Street, their usual meeting place, on the evening of Wednesday, 7th inst. There was a large muster of members, and the proceedings are acknowledged to have been livelier and more interesting than at any first night for years. The technical business for the evening was a discussion upon "What Constitutes a Good Printing Negative," which was introduced by Mr. T. Barclay, the Honorary Secretary. Mr. Barclay submitted a number of negatives by different processes of development, and passed them round, members being asked to point out the defects in them. The discussion which followed was not strictly confined to criticism of these negatives, but wandered into questions of development and printing, which it could not avoid doing, the possibilities of variation in both processes being so important in the production of a good result that it was necessary to drag in references to them in dealing with any particular negative. One thing which all the speakers were agreed upon was that a negative which did not look particularly perfect might produce a first-class print. Mr. A. Ayton mentioned that some qualities of plate were starved in silver, and that with them it was often impossible to get all the detail which was requisite. The gentlemen who took part in the discussion were Messrs. G. G. Mitchell, J. M. Turnbull, J. McKean, Webster, W. T. Bashford, J. R. Roddick, Brebner, and Powell.

The Chairman, Mr. H. J. Blanc, afterwards intimated that it had been resolved to issue a syllabus of subjects upon which discussions would be held at the subsequent meetings. Such subjects, he said, as they had had before them, could not be too frequently repeated. Many must be going on in the dark, not knowing whether what they were doing was the best, and for them such discussions would be most profitable. These discussions would not, however, exclude papers on new matters.

The Photographic Convention of the United Kingdom, the Chairman said, had accepted the Society's invitation to visit Edinburgh next year, and the meetings would be held some time in the month of July. The Council of the Society would do

their best to make the Edinburgh Convention a success. The arrangements were being considered, and would probably be the same as in former years—a public reception on the Monday evening, and papers and discussions on the other evenings of the week, with several excursions.

Further intimations by the Chairman were that arrangements were being made for the annual exhibition of members' work. This year there are several prizes to be awarded, and the Council are to issue voting papers to all the members, upon which they may indicate the pictures they considered worthy of the prizes, and the Council will, in giving their awards, take these votes of the members into account. The exhibition will be open for a week. He also stated that gifts of photographs had been received from Messrs. Inglis and Balmain, of the Society's Exhibition of last winter, for which, on his suggestion, those gentlemen were thanked. The accounts of the Exhibition, he said, would be laid before the Society in a short time.

Notes from the Liverpool Centre.

(BY OUR DISTRICT EDITOR.)

I UNDERSTAND that a different arrangement has recently been come to by the Council of the Liverpool Association relative to Mr. Charles W. Hastings' exhibition of the 1891 Prize Slides in Liverpool. Originally it was intended to secure the Lancashire and Yorkshire Railway Company's room in Tithebarn Street for the demonstration; but it has been decided to engage the elegant and admirably adapted City Hall, Eberle Street, instead. Personally I think that the latter hall is preferable. Tickets for the function are going off rapidly, and a large and fashionable audience is practically assured. The members of the Liverpool Association are working enthusiastically to this end.

Last Thursday night, 8th inst., the Birkenhead Photographic Association held their October ordinary meeting in the hall of the Y.M.C.A., Grange Road. There was a fairly good attendance, and the programme of the evening proved highly satisfactory. Mr. J. A. Forrest gave the second of his series of lectures on "Photography: its Dawn in 1839 to its Development in 1891." Mr. Alderman H. Rawcliffe, J.P., subsequently gave "A Holiday in Algeria and Andalusia," illustrated by about 100 slides.

At the meeting of the Walton Society on Wednesday, 7th inst., members' slides of this year's work were put through the lantern, and gave general satisfaction. The exhibition was a very good one all round.

Mr. W. Tansley, the Honorary Secretary and Treasurer of the Liverpool Camera Club, has notified me that the eighth ordinary meeting of the Society this week is to be devoted to a social entertainment which is to include vocal and instrumental musical items by the members and their friends—coffee provided and smoking allowed. I hear that the Society is progressing very satisfactorily. Communications are invited from members who are willing to read papers or give demonstrations, and illustrated accounts of travel or demonstrations of photographic processes will be welcome. Mr. Tansley will also be glad to receive the names of gentlemen desirous of showing sets of lantern slides during the winter session. The outlook is auspicious.

Last Friday night Mr. Paul Lange inaugurated a number of photographic lectures at one of the Liverpool schools of technology, by introducing Mr. Edwin Banks, the lecturer, to the students. The Liverpool President's remarks were terse and to the point, pointing out the advantages of photography in various branches of science and commerce. "In the future," said Mr. Lange, "the photographer will have a double advantage, as in the present day the shorthand writer, the linguist, and other men trained in technical knowledge have. Liverpool has much to boast of in photography, and many photographers to boast of—Sayce and others." Mr. Banks cordially re-echoed all that Mr. Lange said, and then proceeded, as his first lecture, to detail the principles and the uses of photography. The series will be continued until April, numerous practical experiments and demonstrations being given during the course.

So far as can be judged, this photographic class of the technical school will be highly successful. If so, a large number of working men will take up the fascinating art-science in Liverpool, "a consummation devoutly to be wished."

By the way, Mr. Lange is to demonstrate on "Norway and its Wonders," at Blundellsands, on Thursday this week, and at Sheffield next Monday.

Exhibitions.

THE AMSTERDAM PHOTOGRAPHIC EXHIBITION.

LAST week we published the list of awards, and will now make a few comments upon the work contributed other than that sent from the United Kingdom, which without exception has been exhibited here, and in most cases medalled.

SECTION A (PROFESSIONAL WORK).

F. Muller (München) devotes himself to genre and portraiture; the large heads, studies, on rough home-sensitised paper are exceedingly fine, and far surpass any work yet exhibited in England. He shows true knowledge of art in the pose and lighting of his subject. The ordinary portraiture exhibited by Muller is of a very high order, almost wholly in platinotype.

C. E. Mogle (Rotterdam) prints entirely on silver albumenised paper, and shows a magnificent frame of portraits from cabinet to 12 by 10; retouching is apparent in most of them, but in every case where it has been resorted to much care has been taken not to make it obtrusive. Mogle also shows a frame of Dutch views, which are among the choicest bits of landscape in the exhibition.

G. Gruel (Mannheim). This exhibitor is most successful in genre pictures; several of them would attract much attention if exhibited in England. His collection includes several charming little compositions of children playing, pretty in conception and careful in execution.

O. Anschütz (Lissa) exhibits some most marvellous photographs of animals, birds, reptiles, etc., in addition to his now well-known instantaneous photographs.

Emrik and Binger (Haarlem) are the only firm, we believe, in Holland that have attempted colotype work; the examples shown prove that they can hold their own with firms who have been working for years. In the last edition of *Lux* (the principal photographic journal published in Holland) the frontispiece was executed by them.

R. Paulussen (Vienna) exhibited a magnificent collection of photogravure work.

Fred Boissonas (Geneva) showed large direct photographs.

S. E. Straus (Cologne), portraits and fancy pictures of small size but very careful execution.

L. Kurtz (Wiesbaden), a collection of admirable work entirely confined to portraiture and fancy pictures, the former very exceptionally good.

H. Tollens (Dordrecht). This exhibitor's views of Holland are admirable. Although only half-plate, he has in almost every case secured a picture, and this without cramming too much sky on the plate or having too much foreground. Tollens also sends half a dozen larger photographs, in which he is more ambitious. The selection of point of view is in every case good, but the prints have been assisted with the brush even to the extent of introducing skies, trees, objects in the foreground. The general effect in our opinion does not justify the means.

Angerer and Goschl (Vienna) exhibit a very fine collection of their well-known phototypie, chiefly direct reproductions from photographs; they also send a collection of prints in colour done by the same process, blocks being provided for each colour, in lieu of stones, as is done in lithography.

Roeloffzen and Hubner (Amsterdam) have gone into photography, photogravure, zincography, etc., and show some good work.

R. Schuster (Berlin) has some good process work, and one or two particularly fine prints with marvellous effects of light and shade.

G. Frohn (Deventer) has the only really good enlargement of a portrait in the exhibition.

A. Schmitz (Cologne) exhibits a very fine photograph of a staircase and entrance hall, which is a marvellous piece of work and a good testimonial for the lens used.

SECTION B (AMATEUR WORK).

We consider that the work in this class is weak and very wanting in originality. There are no pictures exhibited above whole-plate size, and by far the larger proportion are from half-plate negatives. The technique is always carefully done and the picture well composed, still there is a sameness which at times becomes monotonous.

Leutz (Maestricht) has a very fine collection of work, and his

portraits and genre pictures are far away in advance of any work shown.

Bucquet (Paris) shows good photography and some admirable instantaneous work.

H. Kirchener (Berne) has frames in several classes. All show most careful attention to detail; many some originality in selection, and in every case exceptional technique.

Dr. Kuhn (Innsbruck) has a collection of photographs which call for no special comment, there being nothing in them to show individuality.

A. Lunden (Antwerp). This exhibitor has some most capable work, but, unfortunately, the tone is not good and detracts from the otherwise excellent work.

W. Toussaint (Amsterdam). A careful worker, but no striking features in his pictures to call attention to.

There are very many exhibitors in this section, but they are, in our opinion, all showing work of the same standard value, and that not nearly up to exhibition work here. This is due, no doubt, in great measure to the fact that the amateur photographer has not had the same advantages of comparing as his brother worker in this country. Visitors to the Exhibition, and also those who are exhibiting, will, we are sure, be glad and greatly appreciate the opportunity of seeing photographs by so many of our best workers. On the walls are to be found the work of Sawyer, Winter, Byrne, Clement Williams, Cembrano, Austin, Tagliaferro, Martin Harding, Court Cole, S. Francis Clarke, E. B. Wain, Stieglitz, Dumont, etc., etc.

SECTION C. (APPARATUS).

Loman and Co. (Amsterdam).—This firm has already made a reputation in this country by the introduction by what to our mind is the best and almost the only perfect hand-camera in the market, the "Reflex." We have repeatedly drawn attention in these columns to its merits, and feel assured that it only requires to be better known to take its place as the first hand-camera in the market. The firm have several other forms of hand-cameras which they intend to place on the English market for next season, notably the "Stik-hum," which will have fitted to it a roller-holder of novel form in addition to the usual dark slides. The "Holland" camera is well made and much used in the country. The "Amsterdam" is even better, and will hold its own both in manufacture and price with the best class of London made goods. A new tripod of most ingenious construction and lighter than any that we have seen attracted much attention. We had the advantage of visiting Messrs. Loman and Co.'s works, and were much surprised to find how extensive a business was being carried on by a large and very intelligent staff of workmen, assisted by the most modern machinery, used only in making such parts of the camera and dark slides as are better turned out by machinery than by hand. Heavy stocks of wood are kept, in order that none but properly seasoned stuff shall be used. All the brass work is made and fitted, in fact, with the exception of raw material, Messrs. Loman turn out all their apparatus, in their own factory. The growth of the business in Holland and on the Continent has been enormous, and we believe that they have every reason to be satisfied with the connection made in this country. At their warehouse in Amsterdam they carry on the general business of photographic dealers and have an enormous turn-over.

A. W. Groote and Zoon (Amsterdam) show Watson's well-known goods, and the perhaps less known but still excellent work of Machenstein (Paris).

Moinard Van Os (Amsterdam) had on show a novelty in the shape of an admirably constructed washer in which water was injected from the bottom as well as sprays from a ring on the upper edge, which kept the water constantly circulating. The general construction might be improved, but the principle leaves little room for improvement. The same firm exhibit a portable dark-room (Donkere Kamer) which attracted considerable attention. There were many other trade exhibits, but nothing new; as a whole the exhibition is admirable, and we are quite sure that one result of it will be the still further popularising of photography in Holland. Rumour says that another exhibition will be held in two or three years time, and we feel sure that the amateur workers will show to better advantage than they do now.

Speaking for ourselves we may say that our visit to Amsterdam was a delightful one, and we shall long remember the uniform courtesy which was shown us by the members of the jury and the executive of the Amsterdam Photographic Exhibition.

Societies' Meetings.

Birkenhead.—The usual monthly meeting was held on the 8th inst., the Vice-President, Mr. G. A. Carruthers, occupying the chair. Mr. J. A. Forrest delivered a second address on "The History of Photography," as the result of his own experiences. He devoted his remarks for the most part to printing processes, comparing one with another till, arriving at platinotype, he found the best, simplest, most artistic, and most permanent process of all. Samples of the various methods referred to, done by members of the association, illustrated Mr. Forrest's remarks. The leading feature of the meeting was an illustrated lecture by Alderman H. Rawcliffe, J.P., entitled, "A Holiday in Andalusia and Algeria." Mr. Rawcliffe, though not a photographer, had succeeded in getting together a splendid collection of slides illustrating his subject and numbering upwards of one hundred. His remarks were listened to throughout with marked attention.

Coventry and Midland.—At a meeting of the Coventry and Midland Photographic Society on the 7th inst., Mr. E. J. Walker, Earlsdon, was awarded the bronze medal in a development competition, and Mr. Thomas W. Owen, Earlsdon, Hon. Secretary, was awarded the silver medal for the greatest number of marks in the series of six competitions, Mr. Owen taking three of the six bronze medals.

Croydon.—At the ordinary meeting on the 12th inst., the President (Mr. H. Maclean, F.G.S.) in the chair, Mr. William Daniells was elected a member. There was a large muster of members to inaugurate the winter session and to be present at the first meeting in the new and more commodious rooms at 56, George Street, into which the society has moved. These were greatly approved of by all present. In transacting preliminary routine business, the President forcibly reminded members how much they were indebted to Mr. G. R. White for superintending, and in great part personally carrying out, the work of moving and getting the new place in order. The mention of Mr. White's name evoked loud and sustained applause, which indicates that his valuable services do not pass unnoticed. The subject of the evening, "Flashlight Photography," was handled by the above gentleman in a very attractive and clear fashion. Space will not here allow us to fully report the whole discourse; enough that it explained the theories involved in the various methods of using magnesium, and touched on the characteristics which should be present in a good flash-lamp. In order to obtain simultaneity in the discharge of a series of lamps, Mr. White employed electricity to fire them, and described the construction and method of working the electric fuse. The compound adopted for the subsequent exposures was a mixture of gun-cotton and powdered magnesium, 60 grains of the latter being allowed to each lamp. Several exposures were made on groups posed to represent a meeting round the club mahogany; the negatives were without delay developed by a strong contingent of workers in the new dark-room, which is so spacious that we counted ten members in it at one time. Several of the negatives handed round gave promise of resulting prints of a high character. Perhaps the most flattering looking was one taken with two lamps burning together 120 grs. (stop f/11). During the developing interval Mr. Hirst showed and explained Wormald's newly-designed printing frame for making lantern slides out of any desired portion of a larger sized negative. The proceedings concluded with the usual votes of thanks (including one to the Auckland, N.Z., Vice-President, for a set of lantern slides of antipodean scenery, presented to the Croydon Camera Club).—26th October: Members' lantern night.

Dewsbury.—At the monthly meeting on the 8th inst., Mr. A. S. Marriott, President, in the chair, the Secretary read the rules and conditions drawn up and recommended by the Committee for the Society's annual competition, and which was unanimously adopted. An adjournment was made to the lecture theatre, when Mr. H. M. Smith gave an able and instructive demonstration on the "Use of Hand-Cameras," illustrating his lecture with lantern slides made from Kodak negatives. A large variety of slides were passed through the lantern. He strongly advised hand-camera users to practice themselves in holding the instrument level, to carefully select their subjects, and to have the thumb on the shutter release, and to be gently pressing it until the right moment arrives to finally release it. Many questions were asked and ably answered by Mr. Smith.

East of Scotland.—A new session was opened on the 1st inst. with a general meeting. There was a large turn-out of members. Mr. J. D. Cox, President of the Society, submitted the annual report, in which he stated that in the course of the past session thirty-two new members had been admitted into the Association, that being the greatest number admitted during any year. He then intimated the results of a competition for landscape prints, in which sixteen sets had been forwarded. In the size 5 by 4, five sets had been sent in, and the prizes had been awarded as follows:—1st, Mr. D. Ireland; 2nd, Mr. D. Ireland; 3rd, Mr. J. R. Stewart. For half-

plate and larger pictures there had been eleven competitors, and the result was as follows:—1st, Mr. V. C. Baird; 2nd, Mr. V. C. Baird; 3rd, Mr. D. L. Honeymann. Mr. Andrew Stewart then read a paper on "How our Members Make their Lantern-slides," in the course of which he explained that he had received a number of sets of transparencies from the members of the Association, and that he had merely acted the part of sub-editor in arranging and describing the slides. Fourteen sets were exhibited on the screen, and the various processes by which the members had prepared them were explained from the workers' own notes. Mr. Stewart also described in a humorous manner his own experience of slide-making, paying particular attention to the developing of the image on the plate. After the exhibition of slides, Mr. A. W. Munro described an ingenious form of hand-camera which he had constructed on his own plans. It was of the "magazine" form, and was capable of holding three dozen plates. The plates were changed by a simple arrangement of rack and pinion worked by a screw on the outside of the box.

Frome.—The first annual meeting and soiree of the above Club was held on the 8th inst. Mr. W. A. Fussell, Mells, Vice-President, took the chair, and congratulated the members upon the numbers assembled, and regretted their not having the President with them. Dr. A. W. Dalby, the energetic Secretary, delivered a highly interesting address on photography in general and the objects of the Club. He stated that the Rev. H. B. Hare would give two prizes for competition among the members of the Club for special subjects, and that papers had been arranged for during the winter months. Mr. Bartlett, Stony Street, gave a magic-lantern exhibition, the slides being very beautiful. Some admirable photographs were lent by Dr. Cockey (microscopic), Dr. Dalby, Mr. Fussell, Mr. Bell, Mr. Edinger, Mr. Humphreys, and Mr. Farres, and there were a lot of photographic apparatus on view. The Club has taken the lower part of the Temperance Hall, and at the back has fitted up a dark-room for the use of the members, and visitors can also use it on payment of a small fee.

Glenalmond.—At a meeting held on the 6th inst., the officers of the term were elected as follows:—President, Mr. A. S. Reid, M.A., F.G.S. (re-elected); Secretary, Mr. C. Cunningham Craig (re-elected); Treasurer, Mr. L. H. Maxwell (re-elected); Librarian, Mr. W. H. Maxwell (re-elected); Keeper of Album, Mr. J. V. Kitto (re-elected). At this meeting it was decided that the Club should meet fortnightly on alternate Saturdays. On the 11th inst. the first regular meeting for the term took place, the President in the chair. The more important business having been discussed and settled, it was proposed that a lantern-slide competition should be started. It was settled that all competitors should have their slides (viz., a set of three) sent in by December 2nd. The meeting then became general to examine some photographs sent in by the President and Mr. Harrison, and some opals by Messrs. Maxwell.

Halifax.—An ordinary meeting was held on the 6th inst., Mr. J. J. Learoyd in the chair. Mr. H. M. Smith was present, and handed round to the members for inspection two Kodak hand-cameras, at the same time explaining their working. He afterwards gave a very interesting lecture and exhibition of lantern slides made from Kodak film negatives, which were ably shown on the screen by Mr. M. Manley with his biennial lantern. The slides were made by the collodio-bromide process, and for clearness, definition, and brilliancy could not be surpassed.

Herefordshire.—The annual meeting was held on the 6th inst., Mr. T. J. Salway in the chair. The council met at 7.30 p.m., to pass the accounts, which showed a balance in hand of about £8. The first business of the meeting was to elect the officers and council for the ensuing year. Alderman Blake was re-elected President, Mr. A. Watkins and Mr. T. J. Salway were re-elected Vice-Presidents, and Mr. J. Parker was also added in the place of the Rev. W. Bowell. Mr. W. E. Haines was elected Hon. Treasurer in place of Mr. B. Cullwick, who has left Hereford; Mr. Parker was re-elected Hon. Secretary, and Mr. E. G. Davies Assistant Hon. Secretary. The following were re-elected on the Council: Messrs. A. H. Smith, R. Clarke, E. G. Davies, H. J. Wilson, E. Pilly, E. W. H. Chave, Messrs. B. C. Kinsey and A. C. Edwards, jun., were also added to fill two vacancies. Mr. Pearmund and Mr. T. G. Chance were elected as new members. The Chairman then announced that the secretaries had arranged for six lantern evenings, the dates not yet having been fixed. Mr. Parker proposed that the winter meetings should be held on the first Tuesday in each month; this was seconded by Mr. B. C. Kinsey, and carried. Mr. A. Watkins then proceeded with his lecture on "Lantern-Slide Making;" the first process was by contact of a view of Wye and Cathedral, also Yavor old church, which both proved successful. He (Mr. Watkins) then showed the process of reducing with the reducing camera made by himself; several other processes were also touched upon, and a very enjoyable evening was spent. Mr. Watkins very kindly offered first and second prizes, to consist of two of his exposure meters, for best set of lantern slides, by November 30th. The Chairman then showed on the screen several lantern-slides made by

himself; the slides Mr. Watkins made during the evening were also shown.

Holborn.—On the 9th inst., Mr. James Rennie, jun., in the chair, Mr. Ernest Benest gave a lecture, with experiments, on "Light, and its Action upon the Haloid Salts." His reason for treating on this subject was due to the fact that he thought a large number of practical workers were very careless about the fundamental principles upon which their art or craft depended. It was his intention to make this lecture of special interest to working photographers. He divided his paper in two sections and an appendix. In the first section he treated of the conditions and materials necessary for receiving the latent image, by noting the various processes, viz., the daguerreotype (1839), the wet-plate process, the gelatino-bromide process, and the collodion process. In section 2 he dealt with the action of light on these substances. He thought it would be well to consider in the first place: Is the action of light on the haloids chemical or physical? The general opinion of the action of light was rather favourable to what was known as the sub-haloid theory. He gave various reasons which tended to confirm this theory, as against the theory of a physical change. He then mentioned the oxy-haloid theory, and the experiments of Hunt and Meldona in that direction. He spoke of the ripening of the emulsion, and of the various sensitiveness in the haloid salts. In the appendix, he made note of the various experiments which he made after the lecture in support of the theories he had put forward. The lecture proved extremely interesting to the large number of members present. On Saturday, the 10th inst., it had been arranged to have a Club outing to Hyde Park, and finish up with a smoking concert at the Club-rooms in the evening. Owing to the rain, the former portion of the programme was adjourned till next Saturday, while an enjoyable evening was spent in keeping up the latter event.

Huddersfield.—On the 7th inst., a special meeting was held, Mr. A. Clarke in the chair, when Mr. H. M. Smith showed slides from Kodak negatives. Mr. Smith commenced by describing the Kodak camera, and claimed that it was *par excellence* the camera for those who knew but little of photography, as by following the directions anyone with care could obtain good negatives. Having shown the mechanism of the roll-holder, he said that some people object to this on account of having to expose the whole of the roll before commencing to develop the films. This he contended was a fallacy, as one, two, or more negatives can be detached and the film refixed in the holder. He stated that though the camera is designed principally for hand or instantaneous work, yet it is capable of being fixed upon a tripod and used in the ordinary way, and in this manner negatives may be obtained which for sharpness of detail cannot be surpassed by the use of any ordinary camera. A large number of slides were then passed through the lantern, and, judging by the applause which many of them received, were greatly appreciated by the audience. Mr. Smith then kindly undertook to answer any questions which might be put to him relative to the working of the camera or the films.

Ireland.—The first meeting of this Society was held on the 9th inst., Mr. Geo. Mansfield, J.P., President, in the chair. After the usual formal business the President read his opening address, in the course of which he said that it was pleasant to meet again after another year, and above all to find after another year that the society had continued to progress. Of course to the outdoor photographer who sought his pleasure in the presence of nature, the ending of the sunny days and the rapid closing in of the chilly evenings brought a pang of regret. There was however, plenty for him to do during the winter season, were it only to bring before the Society's meetings some of the useful experience he had acquired during his summer work. The field of photography was a large one; there were paths of research in it suited to all tastes. He could not but feel that there was much truth in an article he had read recently in a photographic journal, where attention was called to the fact that a photographic society had a larger scope than to devote its attention almost exclusively to one special branch of photography, an error which had been largely committed during the past two years by the overwhelming amount of encouragement given to the art side of photography. He (Mr. Mansfield) was a firm believer in the art future of photography, despite the recantation of its arch prophet, but he was also convinced that, as in other forms of the art of delineation so also in photography, artists in the true sense of the word have been and always will be few and far between. The other uses of photography therefore equally deserved their attention, and they were bound to welcome the many who, neglecting the higher walks of art photography, regarded it solely from a scientific point of view, whether as a mere branch of physical or chemical science or as applied to some of the arts or sciences, such as astronomy, microscopical research, architecture, or archaeology. Mr. Mansfield mentioned the fact that an exhibition of members' work would take place in the rooms in December, and said he expected the pictures exhibited would be numerous and good; but that there would be much novelty in the processes by which they were produced, he was

doubtful, for there had been a complete dearth of new discoveries during the last year. The changes accomplished of late were unimportant, still he might refer to the more general adoption of eikonogen as a developer, particularly for instantaneous exposures; his own experience was that for short exposures it was unsurpassed. In printing there had been an increase in the employment of Gelatino-chloride printing-out papers. The Chairman concluded his address by pointing out that celluloid films had come into more general use, and that where it was necessary to reduce weight they were invaluable. The meeting then became conversational, and the evening passed pleasantly by the discussion of various successes and failures of the past summer.

Leeds.—The ordinary monthly meeting was held on the 1st inst., the President, Mr. Godfrey Bingley, in the chair; when Mr. H. M. Smith delivered a lecture with limelight illustrations on "Film and Kodak Negatives, and Lantern Transparencies therefrom." The slides were principally from negatives taken by the lecturer, as well as some remarkably fine examples by Mr. and Mrs. A. R. Dresser. A number of those by Mrs. Dresser were fine interior and architectural photographs. The majority of the pictures shown were, however, instantaneous exposures, and in this respect possess not only technical but artistic merit. The lantern slides themselves were on collodio-bromide plates, and were of excellent quality and tone. At the close of his remarks a discussion took place, Mr. Smith answering a number of questions addressed to him respecting the working of film negatives.

Lewes.—An ordinary meeting was held on the 6th inst. The President (Mr. J. G. Braden) occupied the chair. The sets of prints from hand-camera negatives sent in to the quarterly competition were on view. Mr. J. Hunter Graham, a member of the Brighton Photographic Society, kindly acted as judge and awarded the certificate to the set bearing the *nom de plume* of "Quadrant." Upon the envelope being opened, the set was found to belong to the Hon. Secretary, Mr. E. J. Bedford. The President then gave "A few Notes on Exposure," and, in his introductory remarks, thanked the members for having again elected him as President for the year. He hoped that all members would, as far as possible, attend the meetings and bring with them, not only their good work, but also their failures, for he thought that often more might be learned from a failure than a success. He said to produce a perfect negative it was necessary to give the correct exposure. He had brought Watkins' exposure meter, which he fully explained, and said that after a series of experiments he had made with the instrument he had come to the conclusion that it was a very great help to photographers in ascertaining the exact exposure required for any subject. He showed examples exposed in accordance with the meter, which seemed to be perfect in every way, and they were subjects which differed very widely in the time of exposure required. He thought it would be a good plan to purchase two or three meters and let the members experiment, and bring their results to the meetings. Mr. Percy Morris proposed, and Councillor Wightman seconded, that a Watkins' exposure meter be given as a prize to the member who should produce the best results in some future competition, which was carried unanimously. This brought the meeting to a close.

Liverpool Y. M. C. A.—A demonstration in "Lantern-slide Making" was given to the members of the above Club on Wednesday, the 7th inst., by Mr. E. M. Tunstall, Hon. Sec. of the Liverpool Amateur Photographic Society. There was a very fair attendance of members, and the remarks and practical illustrations given by the lecturer were intensely interesting and instructive, and were highly appreciated by the audience, and a hearty vote of thanks was awarded to Mr. Tunstall for his exceedingly practical demonstration. The next demonstration will be on November 4th, by Mr. Wm. Prior Christian, on "Development."

North Middlesex.—At the meeting on the 12th inst., Mr. J. C. S. Mummery in the chair, Mr. Roland Whiting delivered to an audience of fifty members and friends a most interesting and exhaustive lecture on the subject of "Intensification and Reduction of Gelatine Negatives." The lecturer dealt with the silver processes, by which the silver is deposited on the image; with the uranium and Schlippe's salt method by which the image is changed to a non-actinic red colour; and with the various mercury intensifiers, with reduction by ferric chloride, ferriyanide, and the various bleaching agents, such as chloride of lime, etc., showing examples by each process. He then demonstrated his favourite method, by which either the high lights or the half-tone could be strengthened more in proportion than the other. This he accomplished by bleaching the negatives in mercury to the required depth, and when the half-tone required most intensification he bleached the film in mercury, stopping the action before the high-lights were attacked, washed the plate, and darkened the high-lights with sulphite of soda. When the high-lights required most strength the half-tone was first darkened with sulphite and the high-lights blackened with ammonia. The lecturer was followed with great interest. Three candidates were proposed for election as members of the Society.

Putney.—At the meeting on the 7th inst., Rev. L. Macdona in the chair, the following gentlemen were elected to serve on the Council for the ensuing term: President, the Hon. Baron Pollock; Vice-Presidents, Rev. L. Macdona and Dr. W. J. Sheppard; Council, Dr. J. F. Farrar, Messrs. H. Faulkner, jun., T. Gilbert, W. F. Gorin, L. S. Zachariasen; Hon. Secretary, Chas. Ballard, 45, Disraeli Road, Putney; Hon. Treasurer, Wm. Martin, jun., 4, Lower Parkfields, Putney.

Rotherham.—The second annual meeting was held on the 6th inst., Dr. Baldwin (President) in the chair. The weather was inclement, but notwithstanding there was a good attendance. In the annual report appears the following:—"Your Council have to record with satisfaction a steady growth in the membership, and an increasing interest in the aims and objects of the society. During the year there have been twelve ordinary monthly meetings, with an average attendance of 13½ members. The number of financial members on the books is 33, as compared with 27 last year. Several new members are awaiting election. With regard to the individual work of members, as evidenced by the exhibits at the society's meetings, considerable progress has been made. There is more inclination to take advantage of the improvements which have been introduced, with the result that in printing especially the newer methods are increasing in popularity. . . . The chief event of the year was the holding of the annual exhibition on Shrove Tuesday, February 10th. There was a goodly display of members' work, and it was very favourably criticised by several of the visiting friends. The principal exhibit was from the Sheffield Photographic Society, which has always been ready to give a helping hand to its less influential neighbours. . . . The annual competition of members' work has been fixed, and the entries must be sent in by the 24th October. The prizes offered by the society have been augmented by a gift of two guineas from Dr. Baldwin, the President." The financial condition of the Society is satisfactory. The report and Treasurer's statement having been approved, the election of officers followed. Dr. Baldwin was again placed in the presidential chair, and Mr. E. I. Hubbard and Mr. W. H. Haywood were elected Vice-Presidents; Mr. G. T. M. Rackstraw was also chosen a Vice-President; Mr. James Leadbeater was appointed Treasurer; and Mr. H. C. Hemmingway, of 6, Stanley Street, Rotherham, Hon. Secretary. The Council was constituted as under:—Messrs. L. Berry, J. Wright, W. H. Shephard, W. Mason, and J. W. Whittington. Several alterations of rules were made, amongst them being the removal of the word "amateur" from the name of the society. Eleven new members were elected, bringing the total membership to forty-six. The usual votes of thanks were passed, after which Mr. E. I. Hubbard gave an interesting demonstration on the manipulation of Gelatino-chloride paper.

Sheffield.—The annual meeting was held on the 6th inst., Mr. B. J. Taylor in the chair. The Treasurer presented his statement of accounts, which showed a very considerable balance in hand. The Secretary read the report for the year, showing that there had been three resignations and twelve new members. The excursions had received considerable attention and support, and have been much more numerous than for several years past. They had produced some splendid work, especially the one to Lincoln. The

officers for the ensuing year were elected as follows:—President, Mr. B. J. Taylor (elected for the third time); Vice-Presidents, Mr. G. Bromley and Mr. Thomas Firth; Council, Messrs. E. J. Sampson, W. T. Furniss, W. V. Davy, Josh. Smith, and T. G. Hiobert; Treasurer, Mr. Ernest Back; Reporter, Mr. E. H. Pearce.

Staff. Potteries.—At the monthly meeting held on the 6th inst., Mr. E. B. Wain (Vice-President) in the chair, there was a good attendance, and one new member was elected. Mr. F. C. Powell was to have given a demonstration on "Lantern Slide-making," but being unexpectedly prevented from giving it, his place was taken by Mr. Hewitt, who gave a demonstration on the same subject, illustrating it by making a number of slides from negatives of varying densities, using Thomas's plates for dense negatives, and Mawson's plates for thin negatives; the demonstration also included some experiments with Alpha lantern plates, by giving different exposures to the same negative. The usual votes of thanks was passed.

Sunderland.—The annual meeting was held on the 5th inst., at the café, Mr. Broderick presiding. The pictures sent in for the "landscape" competition were on view, the work of Messrs. J. Lynn and A. Peddie being of such equal merit that the judge, Dr. Haswell, recommended that the prize be divided. The report and balance sheet were adopted. The officers for the coming year were elected as under:—President, Mr. W. Pinkney; Vice-president, Mr. A. Stafford; Council: Messrs. W. Bartram, J. W. Broderick, L. Lynn, W. Milburn, A. Peddie, W. J. Pope, W. Pratt, R. Stafford. Treasurer: Mr. T. Walton. Secretary: Mr. C. E. Cowper, Thornhill Gardens, Sunderland.

West London.—The annual general meeting was held on the 9th inst., when there was a large attendance of members. After certain of the rules had been altered and amended, the election of officers for the ensuing year was proceeded with, with the following result:—President: Mr. W. A. Brown, re-elected. Vice-Presidents: Messrs. C. Bilton, B.A., W. L. Colls, J. A. Hodges, and Dr. Low. Council: Messrs. Adam, Lumley, Varden, Wilson, and Winter. Treasurer: Mr. W. H. Whitear. Secretary: Mr. H. Selby. Assistant Secretary: Mr. L. Selby. Librarian: Mr. J. Wilson. Lanternist: Mr. R. Horton. Auditors: Messrs. Bennett and Stein. A hearty vote of thanks to the President for his past services to the Society terminated the proceedings. The next meeting will be held on Friday, 23rd inst., when the presidential address will be delivered and a few slides will be passed through the lantern. Members are requested to bring slides with them.

York.—By the kindness of the Editor of the AMATEUR PHOTOGRAPHER, the 1890 Prize Slides were exhibited on the 6th inst., in the Victoria Hall. The inclemency of the weather prevented a very large audience assembling, but those present had an exceedingly pleasant evening. After the exhibition the election of officers for next year took place as follows: President, Mr. F. Vincent; Vice-President, Mr. H. C. Swales; Treasurer, Mr. E. Bainbridge; Council, Messrs. Pawson, Ogden, Hick, and Redpath; Hon. Secretary, Mr. F. G. Benson, 50, Scott Street, York. Mr. Dickinson kindly promised a continuance of those services with the lantern which have conducted so largely to the amusement and edification of the members. The usual votes of thanks closed the proceedings.

To Correspondents.

All communications for these columns are to be addressed to The Editor, "Amateur Photographer," 1, Creed Lane, Ludgate Hill, London, E.C.

RULES.

1. Write clearly and distinctly on one side of the paper only.
2. Write each Query or Answer on a separate sheet of paper.
3. Write the name and address legibly on the back of each communication, and sign all Queries and Answers with name or *nom de plume*.
4. All matters for these columns MUST be received by TUESDAY MORNING'S POST.
5. The Editor does not undertake to answer questions by post.
6. In answering Queries, correspondents are requested to mention, in every instance, the number and full title of the query referred to.

QUERIES.

5121. **Platinotype.**—Would someone tell me of a simple process to obtain good prints on platinotype? I have got the instructions from the Platinotype Co.,

but it seems to me rather difficult. Is there any other paper (platinotype) that gives good and permanent results? If so, kindly give name and price. Would some fellow reader also tell me whether the following is good for platinotype?—Print, and then insert in solution hydrochloric acid, 1 pint, and water 60, then remove and wash; then put in hydro, 1 pint, water 50, then wash? If this is so, kindly say what make paper it will suit best to get good results?—LEARNER.

5122. **Celluloid Screen.**—I have a celluloid focusing screen, but am unable to use it in a Lancaster's "1890 extra-special" camera, for it bends. How can I prevent this?—TE WIRRMU.

5123. **Lens.**—I have a 9 by 7 Ross' R S lens, and should like to know what is the largest size of plate it will satisfactorily cover when stopped down, and what stops it would be necessary to use for 10 by 8, 12 by 10, and 15 by 12, if it is possible to get such large plates covered with it. Hitherto I have only used this lens on a whole-plate camera. Any information as to above will greatly oblige. SMALL STOP.

5124. **Changing Box.**—Is there any satisfactory changing box on the market for use with half-plate camera and ordinary double dark-slides? If so, who is the maker?—WOOLLEN BRAIN.

5125. **Lens.**—Which is the most useful of the following lenses for an amateur's general use, or are there any as good at less price: (1) Optimus Euryscope (Perkins), (2) Perkins' rapid rectilinear, (3) Wray's rapid rectilinear?—WOOLLEN BRAIN.

5126. **Sensitised Paper.**—Can anyone tell me where to obtain reliable paper (matt and albumenised) that will tone without much trouble, and what the best brand is?—WOOLLEN BRAIN.

5127. **Sensitised Paper.**—Can anyone tell me how I can make my own paper for printing on?—C. B.

5128. **Coating Dish.**—I used a varnish composed of asphaltum, dissolved in bisulphide of carbon, to coat a wooden sink with. I find that after a time it wears off the wood. Can I add anything to this varnish that will prevent its coming off?—W. G. G.

5129. **Nameit.** Will anyone having used Gray's "Nameit" say whether it is really practically useful, and easy in manipulation; whether with ordinary intelligence and care it will do what it professes to do?—W. G. G.

5130. **Hand-Camera.**—Can any reader tell me of a suitable hand-camera which fulfils the following requirements: Two or more lenses of different foci can be used at will; view can be focussed on a screen; any particular plate can be used when desired? It must be simple in construction, with nothing much to get out of order.—CANTAB.

5131. **Ventilator.**—There is an article in the "British Journal Photographic Almanac," 1891, p. 541, entitled "How to Make an Archimedian Ventilating Screen," by F. W. Munro. Would he or some of your subscribers kindly tell me how it is affixed to the dark-room, and its working? I have the ventilator described in the above Journal, 1888, in use. Could it be used in conjunction with this, or how?—CENTURION.

5132. **Painted Slides.**—After painting lantern slides, I have a difficulty in getting them to dry, especially the sky, which always dries covered with small specks. Is it in the varnish? I use Riley's diaphanous colours. They take a long time to dry. Can any of your readers recommend any other?—G. P. B.

5133. **Alpha Paper.**—I have been using some Alpha paper this last week, but from some cause or other fail to get a warm tone. All the tone I get is a kind of green colour. I use the toning bath the makers give in the instructions. I shall be glad to know if there is

any other toning bath I could use, or how it is the prints do not tone? I leave them in for 30 minutes.—W. H. S.

5134. **Pyro.**—I have made up the following pyro developer, which, to the best of my belief, is the one recommended by Messrs. Wratten and Wainwright for their dry plates:—

(A).
Sulphite soda (recrystallised) 6 oz.
Pyro 1 "
Boiling water 32 "
Dissolve soda first, then add pyro when cold.

(B).
Soda carbonate (recrystallised) 4 oz.
Boiling water 32 "

When I tried to develop a well-exposed plate, the image showed no signs of appearance after being half an hour in the developer. Can anyone kindly inform me where I have gone wrong? N.B.—I used no restrainer.—FLY-CATCHER.

5135. **Windsor Castle.**—Can any brother amateur lend me a negative of Windsor Castle, with the river in the foreground, and any river scenery, to make a lantern slide? I would take great care of it, and pay any expenses, or would lend some negatives (quarter-plate) of Antwerp, etc., I have taken this year.—W. H. S. (Address with Editor.)

5136. **Toning.**—Can any photographer tell me the formula for a rich brown tone on silver paper?—A. E. P.

5137. **Newman's Shutter.**—The shutter and the thin stop of my Newman are of dull white metal. Should not they be blacked?—B.

5138. **Carbon Enlargements.**—How are carbon enlargements made? Is this better than bromide printing? Which will give best results, bromide enlargement with Multum in Parvo, or enlarge negative and print from that?—RELLAW.

5139. **Opals.**—Are as good results to be got by printing opals, and slightly over-developing, for use as window transparencies, as by using transparency plates, then backed by ground-glass?—H. W.

5140. **Bromide Developer.**—Can anyone tell me if the hydroquinone for bromide paper can be used again?—A. E. P.

5141. **Mountant.**—Can anyone tell me what is a good mountant for prints on cards?—A. E. P.

5142. **Lenses.**—Will some kind reader help me in the choice of lens. I want a 7 by 5 rectilinear, with Iris diaphragm. Which is the best—Lancaster's Silvering rapid Rectigraph, or any other make at the same price? I want one that will give a sharp, crisp picture up to edge of 7 by 5 plate. Any information will be thankfully received.—NOVICE.

QUERIES UNANSWERED.

Oct. 2.—Nos. 5083, 5090, 5091, 5099.
,, 9.—Nos. 5110, 5113, 5117.

ANSWERS.

4994. **Watkins' Exposure Meter.**—I have used this for some time with satisfactory results.—MEMNON.

5050. **Developer.**—The results would depend on the subject, plate, and exposure. Why not mix an equal quantity of solution made without bromide, with that made with double the prescribed quantity?—MONDS.

5050. **Developer.**—I should advise "Revelo" to try an exposed plate in the developer, and see the result. If bad, put a double quantity of each chemical in the developer, except bromide. This will, I think, if well stoppered, keep for a long time. W. H. ELLIS.

5053. **Hand Camera.**—Messrs. Talbot and Eamer, Blackburn, can supply such a camera as you desire without lens or shutter.—OXIDE.

5053. **Hand Camera.**—The two chief requisites for a hand-camera are sufficient rigidity of structure to enable it to be held firmly against the operator's breast during the exposure, and a means of fixing the focus. The former you can soon ascertain, the latter is accomplished as follows: Carefully focus any object twelve feet away from camera, make a mark on the camera so as always to be able to fix the same focus, and you have all you require.—FRED DAVIS.

5054. **Toning Bath.**—If a beginner tones only a few prints at a time, and at intervals of several days, the acetate bath is the best, as it will keep. If he has a large batch of prints and wishes to tone quickly, he can use the borax bath, which does not keep so well.—MONDS.

5054. **Toning Bath.**—The acetate and borax baths are both good, but I think you would find the borax bath give the best results, making it up fresh every time. The following is a very simple formula:—

Borax 60 gr.
Gold chloride 1 "
Water 10 oz.

Dissolve the borax first in hot water, let it cool, and add the gold. This is enough to tone one whole sheet of paper, equivalent to about a dozen half-plate prints. Throw away after use, as it will not keep.—CARBONATE.

5057. **One-Solution Developer.**—I have used the following formula, and found it give very good results with bromide paper and lantern plates:—

Hydroquinone 100 gr.
Potass. carbonate 300 "
Sodium sulphite 400 "
Water 20 oz.

This needs no further dilution for development. Take a sufficient quantity to cover plate or paper, and pour back into the bottle for future use. I should not recommend its use for plates, as there is no way of compensating for exposure, except, perhaps, by making up a separate solution of carbonate of potash; but if you did this, you might as well make up a two-solution developer.—CARBONATE.

5057. **One-Solution Developer.**—Mr. E. J. Wall in his "Dictionary of Photography" gives a one-solution hydroquinone developer, which is as follows:—

Quinol 90 gr.
Sodium sulphite 2 oz.
Carbonate of soda 2 "
Distilled water to make 10 "
Eosin 1 gr.

Mr. Wall says that although a one solution developer is not the best form, it may be found convenient for travelling. This solution will keep at least two months, and when required for use should be diluted with four times the quantity of water. For over-exposure use old developer, for under-exposure new developer, and for normal half old and half new.—BLISTER.

5092. **Hand Camera to Fit Lens.**—Mr. Park, 5, Station Buildings, Acton Street, Kingsland Road, will fit your lens with a hand-camera at reasonable price. He has just done mine.—FRED DAVIS.

5093. **Double Photography.**—In answer to "A. H. J.," if what he says in his query is correct about the time he has kept it, etc., there is no possible remedy for it; your fault, perhaps, is in not neutralising the gold, or else you had the wrong chemicals.—W. H. ELLIS.

5094. **Photographing the Interior of Churches.**—The only qualities a camera need have for this purpose are a swing-back, a rising front, and a reversing back. You should always back your plates with (preferably) an "alcoholic backing medium," sold by most dealers. Focus with as large an aperture as possible, then stop down. With a fairly-lighted interior, give from 10 to 20 minutes with $f/32$. Badly-lighted subjects may require anything up to an hour; some even more. Develop with a rather weak pyro developer, and a good deal of alkali. Stop out windows when they appear by brushing on bromide.—PEN.

5094. **Photographing the Interior of Churches.**—Does "Italina" use a small stop? He would get much sharper definition of the window if he did. I prefer an afternoon for the east, and morning for west end; it avoids halation round windows. I always use Lancaster's Instanto quarter-plate with Ilford ordinary, average exposure 20 min. in good light with a small stop, and have seldom had a failure. I also prefer to take an end of a church from the seats, not the aisle; it prevents objects like the altar appearing too insignificant, as compared with the walls, which slope in.—LUX.

5095. **Exposure.**—You can only find out the correct exposure by experience; it is impossible for me to tell you; it all depends upon the kind of negative, light, and paper you use. If you expose one piece of paper just what you think it ought to be, and see the result after you have developed, this might help you.—W. H. ELLIS.

5096. **Fixing Aristotype Prints.**—3 oz. of hypo to the pint. Leave in ten minutes.—G. P.

5096. **Fixing Aristotype Prints.**—For Liesegang's paper the strength should be 3 oz. of hypo to 10 oz. water, but the toning solution is as follows:—

A.
Water 3 oz.
Chloride of gold 2 gr.

B.
Water 3 oz.
Sulphocyanide of ammonium .. 30 gr.
Hypo-sulphite of soda 1 gr.

Mixed together by one part of A being poured into an equal part of B, in no case the reverse; dilute with water.—BLISTER.

5097. **Thin Negatives.**—You can improve these by either varnishing the backs with matt-varnish, or by printing through green glass, ground glass, or tissue paper, in a weak light. You can also intensify by immersing for a few minutes till white in:

Bichloride of mercury 1 oz.
Water 10 "

Then thoroughly wash and immerse in a mixture of ammonia and water, varying from a few drops to the ounce up to 1 in 20, according to density required. Again thoroughly wash. Instead of ammonia, sodium sulphite may be used in a 10 per cent solution, but this has not so much effect. Prevention, however, is much better than cure. Develop longer. If you use dry pyro, it is better not to use sulphite, but I prefer the following to all other developers:—

10 per cent. Pyro Solution.
Pure sodium sulphite 4 oz.
Hot water 9 "
Citric acid 30 gr.

When dissolved, add pyro 1 oz.

Ammonia and bromide solutions as you mention. The above contains 1 gr pyro in 10 minims. Use 2 gr. per ounce of developer.—PEN.

5097. **Thin Negatives.**—The cause of your negatives is due to over-exposure, but can be remedied by a process of intensification: bichloride mercury, $\frac{1}{2}$ oz.; water, 5 oz. Soak the plate in clean water for two hours, then place the plate in the above solution until it becomes white. Wash thoroughly, and place in a weak solution of ammonia about four drops to the

ounce, which turns it a rich black. "Sarah" should read "Beginners' Difficulties" in AMATEUR PHOTOGRAPHER of October 2nd.—COPIC.

5098. **Paper.**—Mr. J. Fallowfield, 146, Charing Cross Road, W.C.—BLISTER.

5101. **Bromide Paper.**—(1) Note which way the paper curls. The sensitised side is inwards. If the paper is rolled, it is always rolled sensitive side inwards. (2) Certainly it ought to be. (3) Exposure all depends on density of negative. A negative of ordinary density should be exposed at the distance of 1 ft. from light, and probably would require about 15 or 20 secs. to gas. Thin negatives place 2 ft. off, and multiply exposure by 4.—PEN.

5101. **Bromide Paper.**—(1) What an absurd question to ask. The emulsion is on one side only, and if you allow the paper to lie on your table for a moment you will notice that it begins to slightly curl; the concave side is that coated with the bromide of silver. Or you can wet your finger and the gelatine side will stick to it. (2) Certainly. (3) You must try the proper exposure by little pieces of paper at, say, 5, 10, 20 sec., and so on till you find out. If you had carried out sensibly the directions on the paper, what you say could not have happened, so mix your materials like Opie did, "with hraius, sir."—FRED DAVIS.

5101. **Bromide Paper.**—Yes, there is a vast difference between the two sides of bromide paper, just the difference between a sensitised and an un-sensitised surface. Your failure to obtain any image was doubtless due to your having put the paper in the frame wrong side up. The right side can be detected by the slight curling of the edges towards the sensitised surface. I give Fry's paper 8 to 12 sec., 3 ft. from ordinary gas burner for ordinarily dense negatives, judging the exposure by the appearance of the paper through the negative.—H. S.

5103. **Enlarging.**—In reply to "Kroc," the picture is focussed on the ground-glass in the dark slide, the rough side being turned away from the lens. The dark slide is then removed and the ground-glass replaced by a sheet of clean plain glass; on this the bromide paper is laid, and a couple of sheets of blotting paper on the top, and the slide closed, replaced, and the exposure made. The ground-glass is supplied with the Multum in Parvo camera. If a dry plate is used, the ground-glass must be turned the reverse way.—J. G. P. VEREKER.

5104. **Stereoscopic Moon.**—A true stereoscopic picture of the moon does not probably exist, though it is conceivable that one might be made by bringing into juxtaposition in the stereoscope two photographs of the moon taken simultaneously from two points on the earth's surface some 240 miles apart. A photograph taken in the ordinary stereoscopic camera would not show any relief, the ratio of the interval between the lenses to the moon's distance being absolutely inappreciable. For stereoscopic effect this ratio should not be much less than 1:1,000.—A. E. D.

5104. **Stereoscopic Moon.**—R. H. Michie, Royal Bank of Scotland, Hamilton, has a splendid stereoscopic slide of the moon, which he will sell to "F. R. H." if that gentleman (or lady) will write, and make an offer.

5105. **Fixing.**—It is better to do so, to make sure all the chloride is eliminated.—FRED DAVIS.

5106. **Transparency.**—Depends upon the distance from lamp and density of negative. Try a quarter-plate, exposing portions of it, say 20, 40, and 60 secs., at 2 feet from lamp, judge accordingly. I gave a fairly thin negative 15 secs, at 18 in. from lamp on Thomas's E. R. plates.—ICONOCLAST II.

5106. **Transparency.**—I think "Carbonate" will find there is very little difference in the exposing required for the Barnet plates to that for the Fry's plates.—W. H. ELLIS.

5107. **Lantern Plates.**—I have tried most makers' plates, and for cheap and reliable plates I find Thomas's give very good results with dense negatives. I have got good slides also from Mawson's plates, especially with thin negatives. Mawson's are slower, which is an advantage in using thin negatives.—HYDRO.

5107. **Lantern Plates.**—There are several makes at 1s. per doz. I know of none cheaper. Thomas's at above price are excellent. Ilford Alpha are also same price, if you prefer chloride plates.—PEN.

5107. **Lantern Plates.**—I don't think you will get any under 1s. doz.—ICONOCLAST II.

5107. **Lantern Plates.**—The price of nearly all makes is 1s. I don't think you will get any cheaper than this, at least none that you could rely on at all. Fry's and Thomas's are both good makes.—CARBONATE.

5108. **Eastman Celluloid Films.**—There is no stated reason for your complaints, as there are such a number of ways of doing a thing wrong, which will cause this. You may have had the developer warm, or the film may have been kept in a damp place; either of these would cause the frilling; or you may have put the film in the developer face upwards; this will cause the film to lie unevenly while in the developer.—W. H. ELLIS.

5109. **Arcanum Hand-Camera.**—The lens in this camera being so very rapid, enables almost any good plate to be used. I have used the Phoenix plates with good results. In very dull weather Page's Prize plates may be substituted with advantage.—A. B.

5111. **Kallitype No. 2.**—I have given this a trial, and am well satisfied with the result. The various operations are simplicity itself. Have obtained

splendid purple tones, but not black yet. Have not tried to get sepia tones. I say, try it and you will not regret it. Be careful in printing. —ICONOCLAST 11.

5111. Kallitype No. 2.—Write to the Birmingham Photographic Company, 99 and 100, Godstone Road, Sparkbrook, Birmingham, and they will send you a prospectus giving process of paper and manner of developing, and also a specimen print. —TE WIRRMU.

5111. Kallitype No. 2.—This is well worth a trial. It needs a negative with good detail but not dense, or the half tones will be lost. There are three developers, giving black, purple, and sepia tones by varying the quantities of Rochelle salt, borax, and potash bichromate contained therein. These, with ammonia for fixing, are all the chemicals required. It is no use taking up space with the details of working, as that would be useless to one not possessing the paper, while when the paper is purchased the instructions will be found enclosed. I prefer, however, the original formula for sepia tones, which was about the same as that for purple, with the addition of a few drops of hydrochloric acid. Two cautions: Print deeper for sepia, and in no case use an atom more bichromate than given in the formula. The process is easy, cheap, and quick. —ARGAURUM.

5112. Stains on Negatives.—I do not think you properly fix your negatives or wash them enough, because if you did, you would find there would not be any stains at all. They ought to be in the fixing for ten minutes at least, they cannot be in too long, and they ought to be in the water for twenty-four hours. If your negative is varnished, remove the varnish and place the negative in the following bath:

Sulphocyanide of ammonia ½ drim.
Water 1 oz.

Nitric acid ½ drim.
Water 1 oz.

After the negative has been in the above for a short time, place it in a saturated solution of chrome alum. The above will only be good for one negative. You must be careful not to keep the negative in the first-named bath too long or else you will most likely find the image will be disappearing. —W. H. ELLIS.

5112. Stains on Negatives.—Probably caused by the excess of ammonia in the developer. Sometimes they will rub off under the tap, or with a little methylated spirit. The only preventive is to give up ammonia with plates showing this fault. I have constantly noticed the same thing with Ilford rapid plates, white label. —PEN.

5112. Stains on Negatives.—Rub with a tuft of cotton wool, moistened with the following solution:—
Methylated alcohol 1 oz.
Cyanide of potassium 3 gr.

If the stains occur during developing, it may either be due to stale developer, impure water, dirty measures, or using too much ammonia. You will find that the stains will easily come off, if you rub the negative gently after fixing, with a tuft of cotton wool dipped in water. —BLISTER.

5112. Stains on Negatives.—Silver stains on negatives are caused by constant contact with sensitized paper. They can be removed by rubbing with a lump of cotton wool moistened with a solution of cyanide of potash (deadly poison). You probably don't mean this, however, as you say they only occur in instantaneous work. If you would give fuller particulars I should, perhaps, be able to give you the remedy. —CARBONATE.

5114. Toning Bath.—The bath you mention will not keep satisfactorily. Much better mix fresh each time. The quantity you use will tone two sheets of paper only. —PEN.

5114. Toning Bath.—In answer to "Confused," the bath he quotes is not the same as I have seen recommended in most books. Your quantities are 90, 12, 2, whereas the one I mean is 50, 10, 1. This bath will tone about three sheets properly, and in proportion I should think yours would tone five at most. The bath I mention before using it each time you should put 1 gr. of gold, and by doing this you will find your bath will last to tone five sheets, but I should put in 3 gr. of gold instead of 2 when making up the bath, so your bath will then be nearly equal in proportion to mine. You will not want to add any borax at all to your bath until you have toned three sheets, then you might add 25 gr. and 2 gr. of gold; this will finish the five sheets well. —W. H. ELLIS.

5115. Print Washer, to Make.—Procure a small zinc bowl, such as is used for household purposes, bore a hole ½ in. in diameter in the bottom; into this fit a piece of piping, and bring this piping up outside to within an inch of the top of side of bowl, then bend it down again carefully, making a tiny hole with a drill at the elbow; or, if you like, cut the piping off at this point. In either case, if properly done, when water is turned on the bowl will fill till within an inch of the top and then the overflow will commence at the bottom. This changing will continue as long as the supply comes in, and if this stops, the washer will remain full. You should support the prints on a screen of wire or canvas, otherwise they will cling to the bottom and stop the outlet. —PEN.

5115. Print Washer, to Make.—For a simple and yet efficient washing apparatus nothing can be better than having a circular trough; this can be made of zinc by any tinman. The dimensions of the tank, of course, depend on the number of prints to be washed; the circumference can be increased, but the depth must

not exceed seven inches, or the prints will not keep moving. This receptacle is exactly like a round cake-tin; a very good size is 18 in. diameter and 6 in. deep. A hole should be cut nearly at the bottom of the tank, and a syphon made of a piece of compo gas pipe. Inside the tank, on three stops, a perforated bottom of zinc, made funnel shape, should be placed to prevent the hypo rising, the syphon at the bottom carrying off the hypo as it settles. The water to the tank should be supplied from a tap by an india-rubber pipe entering the tank at an angle; this causes the prints to revolve round and round, and keeps them from sticking together. When the tank is made, give it two or three coats of Aspal's bath enamel. —BLISTER.

5115. Print Washer.—Buy a shallow porcelain dish about 13 by 10, and then place it under a tap slanting slightly away from it, so that the end with the spout is about half an inch lower than the other end. Place a pail or basin to catch the water as it runs off, and then let the water from the tap trickle on to the print. I have found this very effectual, especially for bromide prints, for you can rub the surface with cotton-wool and otherwise attend to them, with the greatest ease. —TE WIRRMU.

5115. Print Washer, to Make.—If "K." will write me I can tell him how to make a washer for either prints or plates, quarter to whole plate, for a very small cost. Editor has my address. —FRID.

5115. Print Washer, to Make.—Why not go on as before, but buying a colander, milk basin, etc., for yourself? They are cheap enough. —ARGAURUM.

5116. Windsor Castle.—It is very doubtful if you can obtain permission to take interiors of Windsor anywhere, but as I am not sure, the only way for you to get to know would be to make a personal application at the Castle any day except Wednesday, in the absence of the Court only. —W. H. ELLIS.

5118. Paper.—Whiteley sells all sorts of paper, Whatman's and other drawing papers, etc. I should try him. —PEN.

5119. Glass Positive.—Put your negative in a printing frame, and a dry plate face downwards on it, just as you would when printing on paper (only in the dark-room). Expose to gaslight or a lamp for a few seconds, develop, and fix. To complete the transparency, put a piece of ground glass behind it, fasten together, and hang up in a fairly strong light. —PEN.

5119. Glass Positive.—There are two ways of making positives. "Cumberland" in his query wants the other: Put your negative in a printing frame just as if you were going to make an ordinary paper print, go in the dark-room with printing frame and packet of plates, place a plate film to film with the negative, and close the printing frame, expose the plate in the printing frame to a good light for five or so seconds, then develop it just the same way as if you were developing an ordinary exposed plate. After you have developed and fixed it properly, bring it out into the light, when you will find you have a perfect positive, and not only that, but you have your negative, which is none the worse. The way you set to work for the second is as follows: You prepare the following solution, viz.:

Perchloride of mercury 1 drim.
Chloride of ammonium 1 "
Water 3 oz.

Put the negative in the above for a short time till you find you have a positive, then take it out and put it in cold water for a short time and then back with black varnish. If you do choose this way, try the process on a spare negative first of all. The varnish you can get at any dealers in photographic materials if you tell them what you want it for. —W. H. ELLIS.

5120. Bromide Enlargement by Daylight.—It will in no way injure your lens by enlarging. After you have developed, keep it in water for half-an-hour, then mount it with starch. —W. H. ELLIS.

5120. Bromide Enlargement by Daylight.—It all depends what you mean by "finishing." Ordinary enlargements are fixed, washed, mounted, and probably framed, after development. But occasionally, of course, they are "finished" in black and white, coloured, etc., etc. —PEN.

5120. Bromide Enlargement by Daylight.—After you have developed the print till the shadows are sufficiently brilliant, wash well in plain water and gently rub the surface with a pellet of wet cotton wool. After washing for about a quarter of an hour, place in fixing bath (5 oz. hypo to 1 quart water), and leave in for about 15 minutes, when the print will be fixed and most of the yellowness of the film will have disappeared. Then wash again in the manner described in the answer to No. 5115, rubbing the surface gently with cotton wool and occasionally laying the print surface down on a piece of glass and equegeeing out the water. About half or three-quarters of an hour of this treatment will be sufficient; then place in clearing bath 1 oz. sulphuric acid to a quart of water, leave in for about five minutes, and all yellowness should disappear; then wash again for about 15 minutes and then dry. If you wish the print to dry quickly, soak it for five minutes in methylated spirit. I have obtained some very fair enlargements up to 11 by 9 from a half-plate negative, in this way. Do not bring the print into strong light till it has been fixed. Messrs Fry and Co. give very clear directions for making enlargements, with each packet of the bromide paper of the larger sizes. You will also find help in "Wall's Dictionary." —TE WIRRMU.

EDITORIAL.

SPECIAL NOTICE.—We are very pleased to find that replies in this column are so much appreciated, but we should be very grateful if those requiring advice would send their letters to us BEFORE TUESDAY MORNING'S post if possible. The time occupied in replying in this column is very considerable, and owing to the often late receipt of letters, many matters have to be left over each week. This we much regret. —ED: AM: PHOT:

STANLEY C. BRIGHT (Genoa).—Thanks for letter. Your own signature is sufficient.

NEVILLE.—All the views except River Scenery, which is a special competition, would be eligible. Prints should be mounted and be accompanied by the usual form. (2) P—Neutral oxalate of potash, 10 oz.; water, 30 oz. 1—Protosulphate of iron, 3 oz.; citric acid, 60 gr.; water, 10 oz. For use, three parts of P to one of 1; be careful to pour the iron into the potash. This for plates. Put the same quantity of water for prints. (3) We will look up the prints.

SEMMA.—You would cease to be an amateur.

C. LIVINGSTON.—No 1 comes from a good negative, but the selection of the point of view is not good. (2) Is a nice little picture, properly exposed and well developed. (3 and 4) Under-exposed. Send some to the competition by all means.

LADIES' COMPETITION.—The competition you mention has not yet been adjudicated upon.

NEMO.—Ask any optician or spectacle seller to give you some periscopic lenses, or if you cannot get them down by you, write to Perken, Son, and Rayment, 99, Hatton Garden. The price mentioned is, we think, too low to get good glasses, and in ordering you must choose such foci as will suit your camera; for instance, the old rule—multiply the foci of the two lenses together, and divide by the sum obtained by adding them together and subtracting the distance between the lenses—will give you the focus of your lens, which, of course, will be uncorrected, and possess a chemical focus not coincident with the visual. You cannot attach an ordinary microscope to the lantern with such good results as are obtained with one of the special lantern microscopes. Perken, Son, and Rayment, however, would do it for you.

F. O. E. Letter by post.

J. G. BRADEN.—We shall shortly publish an article on the subject.

DOVEDALE.—The print you send us is stained, and shows unequal development, but, so far as we can judge from it, it is well composed and lighted. There is a little too much foreground. A very charming view of the same spot took our first prize in the "Inland Scenery" Competition, No. 23, and was published in the "Photographic Reporter" for May, which your friend should see. A good print might certainly be up to standard, but the one sent is not.

T. M. C.—We will try your paper and let you know result.

INSTANTOGRAPH.—(1) Edwards have two hydroquinone developers, one for negative work, and one for bromides and transparencies. (2) The only instructions necessary are to rack the lens out to the equivalent focus and fit the camera in a box, with a hole for the lens to peep through.

W. G. G.—You will find some leading articles on economical dishes in our issues of January 2nd and 23rd, and some watertight varnishes in our issue of June 19th. We send you ticket.

ARTUM MAGISTER.—Letter by post.

GOVAN.—(1) Of course a great deal depends upon the condition in which the camera, etc., is in, but we should say about £8 is a fair price. (2) You will find full instructions for finding nearest point in focus with any lens on p. 262 of last week's issue.

FRANK YOUNG.—The photograph was not of sufficient interest for reproduction in our pages, but we sent it on to the editor of the *Pall Mall Budget*, who might possibly find it of some service.

ABROAD.—Take the half-plate camera and Thomas's or England's films, and go in for a Shew's quarter-plate Eclipse camera with dark slides and roll-holder. With regard to exposed plates, repack the plates in the maker's boxes and carefully re-wrap in stout brown paper and seal the ends.

SUROON, R.N.—We are glad to find that Mr. Dales, of West Bournemouth, gave you so much assistance and advice.

H. HOLT.—Next week we might have looked at your slides, but we fear they have been returned.

A. WOOD.—We are afraid we cannot do what you desire. It would open the door to much extra work.

HALMA.—We can thoroughly recommend the camera you mention.

T. W.—We fear that what you request would take up more room than we can spare; you will find all you want in any of the cheap instruction books.

H. HARVEY-GEORGE.—We regret that your book should have suffered in the post; we will do what we can in the matter.

A. M. J.—We cannot say positively, but it is probable that some of the articles you refer to will be so published.

W. W. H.—If you will send a packet we shall be pleased to test them for you.

A. FREEMAN.—The prints you sent are over-exposed. You should remember that the early morning light is very quick.

STARFISH.—Sky negative may be used. In the event of the print securing a prize, the print would probably be sufficient under those circumstances.

F. A. BELLAMY.—We have prints which we can loan. We will post to you respecting the date for the prize slides.

CHROMO.—It is rather difficult to state definitely how the "chromotype" has been produced, because you want it back. We should set to work as follows: First obtain a mount of neutral grey, cream, or pink ground on which is printed in white the name or title; on this mount a piece of black velvet the exact size of the print you may afterwards want to mount, copy this with a slow plate, giving rather a short exposure, and keep the negative somewhat thin. Having obtained a negative of any sitter, cover it with a marginal mask, as seen in the print you send, print out deeply on gelatin-chloride or collodio-chloride paper, then use a central mask to cover the figure on the print, and use the negative of the mount to print in the margin. An easier way of doing it, perhaps, would be to have a large white mount, say 15 by 12, printed at the bottom with your name and address in good black ink, copy this in the camera to any desired size, cabinet or c.-d.-v.; from the negative thus obtained make a series of positives on transparency plates by contact printing, developing so as to keep the ground clear; intensify if necessary till the letters are absolutely opaque; having printed in your subject under a marginal mask, it is on y necessary to cover the image with a disc of opaque paper, and place the paper under one of the positives you have obtained, and a minute or two's insolation will give you a result the same as you send. It is merely a case of double printing, and the specimen sent is carelessly done, as you will see by the right-hand side, and it certainly is not a chromotype, in that it has no colours in it; and whether it is permanent we do not know, as it is merely a silver print; a correct name for it would be monotype.

RELLAW.—We certainly don't consider it damp, rather that the paper is light-struck or your developers were wrong. Send us up a sheet marked outside plainly "Open in dark-room," and we will try it. Anyhow a solution of—

Hydrobromic or hydrochloric acid	3 parts
Bichromate of potash	10 "
Water	1000 "

allowed to act on the paper for ten minutes and then washed out will make it as good as new, though a bit slower. We always use Fry's or Morgan and Kidd's for enlarging. The question as to whether it is better to enlarge direct or to make an enlarged negative is merely a question of how many prints you want. If you make an enlarged negative you can print on any paper and any number.

Monthly Competition.

XXIX.—HARVESTING.

Title of Photograph.	By whom sent.
Reaping	L. J. Steele
S. Michael's Eve	Miss Dillon
Harvesting	W. E. Galloway
Harvesting, Isle of Thanet	Mrs. Blurton
Harvesting in Wales	Miss E. Broughton
Harvesting; the Golden Evening	R. A. Rayner
A Mighty Worker	J. Tims
Mid day in the Cornfield	E. Winn
Stacking	W. R. W. Shand
Loading Wheat, Sussex	H. Harris
Harvesting; "Leave us a Sup"	R. W. Copeman
The First Rick	G. C. Jardine
Harvesting	Miss Myers
Reaping	E. E. Keal
Carting the Corn	Col. Hooper
In the Harvest Field	P. Morris
Harvesting	H. C. Ridge
Wheat Carting—"Homeward Bound"	Rev. C. Gape
A Moment's Pause	Miss E. Watson
Cutting Corn	Miss E. Annesley
Stacking Corn	Miss M. Murray
Waiting	Miss E. Hihne
Harvesting	F. G. Paterson
As Evening Shadows Fall	A. J. Jeffreys
His Daily Bread	Ernest Beck
Reapers at Dinner	W. Cooper, jun.
The Last for the Miller	Herbert C. Bentley

The Tent and Studio may be used in combination, or independently of each other, and everything is sent out complete and ready for use.

THE BEST AND CHEAPEST.

FRED. J. PROUTING, Tillicurth, Berks.

Elegant in appearance. Easily erected. Strong, yet portable. Unique in design and price. A wonderfully effective aid to outdoor portraiture.

SOLE MANUFACTURER:

Sale and Exchange.

RULES.

COMMISSION.—A charge of 2½ per cent. will be deducted from all deposits whether a sale is effected or not. Minimum charge 1s.

PAYMENT. All payments are to be by cheques or Postal Orders, made payable to **Hazell, Wat-on, and Viney Ltd., 1, Creed Lane, London, E.C.**

REPORTING.—Apparatus may be sent to the EDITOR, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C., who will report upon the apparatus to the buyer for a minimum fee of 2s 6d., or a commission of 2½ per cent., upon the sale price of the apparatus.

CARRIAGE must be paid on all apparatus sent for report, and they will be returned carriage forward.

ADVERTISEMENTS can be inserted under a number, the name and address being registered, and letters forwarded for a fee of 3d. to cover postage.

ADDRESS.—All advertisements (which can be received up to Wednesday morning, 9.0 a.m.) and other communications having reference to the "Sale and Exchange" column must be addressed "Sale and Exchange, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C."

PAYMENTS should be made in Postal Orders or Postage Stamps.

CHARGE. Twelve words or less for Fourpence. Every additional three words, one penny. The name and address of the sender must be paid for. (A single figure, or group of figures undivided by letter, space, stop, or words, counts as one word; compound words count as two words.)

DEPOSITS.—The money for goods forwarded on approval may be deposited with the Publishers of the AMATEUR PHOTOGRAPHER, who will hold the amounts deposited until they are satisfied that the transaction has been completed to the satisfaction of buyer and seller.

Backgrounds.—Pair of backgrounds, interior and exterior, high-class, 8 ft. by 8 ft., on rollers, not solid; 50s. the pair; worth double. — 3, Waverhill Road, Handsworth, Staffs.

Cameras, Lenses, etc.—Whole-plate camera, brass-bound, one slide, lens, tripod (bought in Yokohama), in mahogany case; owner deceased.—Offers to Morris, West Street, Corfe Castle, Wareham.

Hand Cameras, etc.—Kodak, No. 2, in perfect condition, with about 40 exposures unused; price £5; or exchange for other apparatus.—H. Ellis, 1, Threadneedle Street.

Underwood's 42s. hand-camera, for 11 quarter-plates, as new, only 21s.; whole plate R.R. lens, 30s. — H. Rowe, Wallbridge, Stroud, Glou.

Fallowfield's Facile hand-camera, fitted with Taylor and Hobson's 5 in. detective lens, almost new; cost £7 14s.; offers? Wood's washer part exchange and cash. Mant, 317, East India Road, Poplar, E.

Fallowfield's Facile hand-camera, R.R. lens, cost five guineas, in perfect condition; £3 15s. — Apply, No. 208, AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.

Griffiths' magazine camera, holds 12 quarter-plates, shutter, finder, and English lens, takes splendid negatives for lantern slides, warranted in perfect condition; sacrifice, 25s. — W. Adams, Ware.

Lantern.—Pamphengos oil lantern, 8 ft. screen, etc., for sale, good as new. — B. J. Grover, East Lynne, Woodberry Down, N.

Lantern Slides.—Twelve lantern slides of Lincoln Cathedral, in exchange for others of equal merit and interest; offers wanted for Optimus hand-camera, three double slides, rectilinear lens, cost six guineas, in perfect condition.—Birkbeck, 5, Baigate, Lincoln.

Lenses, etc.—Half-plate R.R. lens, Iris diaphragm, 25s.; Griffiths' half-plate oblong lantern slide camera, 7s 6d. — Address, No 207, AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.

Lens, rectilinear, 7 by 5, loose hood, stops f/8 to f/32, highly finished; 25s.; try it on approval for yourself. — Adams, Harold Woods, Essex.

10 by 8 Dallmeyer's R.R. lens; what offers? in good condition. — No 209, AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.

Perkin, Son, and Rayment's rapid Optimus Eury-scope 9 by 7, works f/6, equal to new; cost 126s.; take £4 10s. — No 210, AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.

Dallmeyer's 2B patent lens, £7 10s.; Dallmeyer's 2B £5; Dallmeyer's 1B £2 15s.; Dallmeyer's W.A. whole-plate, £3; Dallmeyer's 1A, £5; Ross' No. 2 rapid c.d.v., £2 10s.; Lerebours portrait lens, whole-plate, £2 10s. — J. Biddle, 97, Medlock Street, Manchester.

Negatives.—These will take the (sun) shine out of you! Splendid results!! 40 years' experience!!! Unequalled guides to amateurs; six, 1s. 3d. — Richford, Wells, Norfolk.

A quantity of splendid half-plate negatives, by a high-class professional photographer, showing retouching, etc.; sample two sent, post free, 6d. — A. Dunhill, 9, Swiss Terrace, Belsize Road, London.

Sets.—81 by 6½ square sliding-body portrait camera and lens (by Rouch and Co.), inner frames, 12 in. matic

flap shutter, and strong tripod; 7½ by 5 folding view camera (by Rouch and Co.), lens (by Grubb), three double slides, one single, for wet plate, hand shutter, strong folding tripod; quarter-plate new detective camera (by Wats n.), three double slides, etc., covered black leather, also sundry dishes, printing frames, etc.; price £10 the lot. — F. Mortem, Warberry House, South Bank, Surbiton.

Half-plate camera, Tourist (by Sands and Hunter), three double backs, Eury-scope lens, working f/8, Sands and Hunter's instantaneous shutter, ash tripod, and case; price £5 5s., or exchange offers. — C. K. Corko, 1, Threadneedle Street.

Mawson's whole-plate Premier camera, three double slides, R.R. lens, tripod, shutter, bag, etc.; cost £24; lowest price £12; as new.—Jones, Enfield House, Urculme, Devon.

Nearly new Optimus quarter-plate 45s. set and 10s. worth of extras; only 35s.; selling to get half-plate camera; can be seen on application. — H. Vaughan, "Nook," Gipsy Hill, Norwood.

Good half-plate set; bargain for 70s.; approval. It is Instantograph camera, slide, tripod, R.R. lens, — 2, Hawthorn Villas, Slad Road, Stroud, Glou.

Lancaster's quarter-plate set, splendid portrait lens, only 12s. 6d.; also two double backs for Lancaster's half-plate Instantograph, as new, only 12s. 6d., cost 25s.—Baron, High Street, Golborne.

For sale, Watson's Acme camera, full-plate, six slides, 3-fold stand, solid leather case, Dallmeyer's rectilinear lens, instantaneous shutter, all as good as new; what offers? — G. Mackie, Chemist, Brechin, N.B.

Sundries. Champion still, 6s.; Newman's shutter, 15s.; Houghton's changing tent, 18s.; Shew's Eclipse hand-camera and one double back, with case to contain camera, and camera clip, 65s.—Pratt, East Bridgeford, Notts.

Camera bag, waterproof canvas, half-plate; 8s. 9d.; new.—Adams, Harold Woods, Essex.

Lens adapters; 1s. 6d., post free; send camera front and flange requiring adapting. — Patient, 37, Mount Park Crescent, Ealing.

Splendid astronomical telescope, 2 in. glass, sun glass, mahogany case; £2 10s.; exchange equivalent in quarter-plate camera, with slides, etc.—J. Freeman, 1, Delaney's Court, Thames Street, Greenwich.

154 AMATEUR PHOTOGRAPHERS, 1d. each, 10d. per dozen; 100 "Photography," 3d. each, 5d. per dozen; 5 "Photographic Answers," first numbers; lot 15s — L. S. Kenilworth Road, Kilburn.

15 negatives, quarter, half, interesting views, Lichfield Cathedral, Dr. Johnson's house, etc., 7s. 6d.; exchange printing frames, background; home made half-plate bellows camera, rising front, two Tylar's metal slides, 8s. 6d., cash free. — Moore, John Street, Lichfield.

"Photography," vols. i. and ii., handsomely bound (vol. ii. without index), and numbers to date; what offers? — A., 107, Broad Street, Birmingham.

WANTED.

Cameras, etc.—10 by 8 or whole-plate camera and slides, must be in good condition. — Evans, Stationer, Conway.

12 by 8 Multum-in-Parvo camera, for use with ordinary camera. — Waller, Banagher, Ireland.

A camera, whole-plate (by G. Hare), must be in first-class condition, all the latest improvements, conical-shaped bellows, two or three double dark-slides, No 211, AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.

Half-plate camera, complete, good maker; for Rudge Safety, cost £16, or sell £8 10s.; tyres uncut.—Particulars to Essex, 3, Queen's Buildings, Buckhurst Hill.

About whole-plate Studio camera, with repeating back; exchange nearly new lady's gold watch and albert, worth £6, and cash.—3, Kent Terrace, Swanley.

Good second-hand whole-plate camera, with latest improvements.—Particulars to Burnham, Blackhouse Road, Deptford.

Hand-Cameras, etc.—Good second-hand quarter-plate Shew's Eclipse camera, Taylor lens. — H., Box 187, General Post Office, Glasgow.

Adams' 1891 Ideal hand-camera, highest possible quality, must be cheap; approval; deposit.—W., 91, Turton Street, Bolton.

Lantern Slides. — Wanted at once, the loan of either lantern slides of Egypt, the Nile, Athens, and Rome, or negatives from which they can be made. — Please state price to Dr. Slater, Lytham.

Lenses, etc.—Lancaster's 376P portrait lens, quarter-plate. — Tully, Chemist, Hastings.

Lancaster's quarter-plate Instantograph lens and shutter, cheap. — Hayles, Union Road, Cambridge.

Negatives.—Quarter and half plate negatives, suitable for making lantern slides; state lowest price. — No. 212, AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.

Set.—Quarter-plate camera set, with light tripod for cycling, lens must be good. — Cullen, 16, Arlington Street, Glasgow.

Sundries.—AMATEUR PHOTOGRAPHER, extra numbers, Summer, 1886; Winter, issued December 10th, 1886; Jubilee, 1887. — G. M. W., Kilmeny, Hawick.

The AMATEUR PHOTOGRAPHER

Telephone N^o 1645
Telegraphic Address: VINEY, LONDON

Office: 1, Creed Lane, Ludgate Hill, London, E.C.

No. 368. Vol. XIV.]

FRIDAY, OCTOBER 23, 1891.

[PRICE TWOPENCE.]

OUR VIEWS.

"To hold as 'twere the mirror up to nature."—*Shakespeare.*

Members of the Editing Staff are "At Home" on Monday, afternoons from Two till Five o'clock, and they will gladly give advice upon all photographic matters.

OUR VIEWS.—Pall Mall Exhibition; What an Exhibitor Thinks about Judging—Photographic Society at Aberdeen—Our Next "Junior Competition"—A Camera Club for Blackheath—AMATEUR PHOTOGRAPHER Slides at Dublin—New Society at Great Yarmouth—The 1891 Prize Slides at the Pall Mall Exhibition—Prospective Arrangements—AMATEUR PHOTOGRAPHER "Monday Evenings"; Lantern Slides, Monday, 28th inst.—Lectures at the Polytechnic Technical Schools—Mr. J. P. Gibson at Newcastle-on-Tyne—Photographs of the Year.

LEADER.—Beginners' Difficulties.

ILLUSTRATION.—"Au Revoir," by Mrs. S. Francis Clarke.

LETTERS TO THE EDITOR.—Development (Iso—John Power)—Intensifying Gelatine Negatives (Roland Whiting)—Loss of Tone (Etheldred Dillon)—A Novel Ventilator (Centurion)—Photographs at the Pall Mall Exhibition (Ralph W. Robinson).

ARTICLES.—Photographic Procedure (Wall)—A Plea for Composition in Photography (Sawyer)—Studies in Art for Photographers (Lambert)—How to Mount Photographs without Cockling (Davies)—What to Do with Under Exposed Negatives (Woodbury)—How I Started a Successful Society (Provincial).

HOLIDAY RESORTS.—Holyhead and Holy Isle (H. Leach).

QUARTERLY EXAMINATIONS IN PHOTOGRAPHY—REVIEWS, ETC.

NOTES.—From the Liverpool Centre—Thursday Evenings at the Camera Club.

SOCIETIES' MEETINGS.—Aberdeen—Blackheath—Brixton and Clapham—Croydon—Micro—Douglas (Isle of Man)—Enfield—Fairfield (Liverpool)—Guildford—Holborn—Lewisham—Liverpool C. C.—Louth and District—Midland—Newport (Mon.)—North London—Oxford—Peterborough—Preston—Putney—Richmond—Sheffield—Tyneside—West Surrey.

EDITORIAL DEPARTMENT.—All Literary Contributions, Queries and Answers, Photographs for Competition or Criticism, Books or apparatus for Notice or Review are to be addressed to the EDITOR, AMATEUR PHOTOGRAPHER, 1, CREED LANE, LUDGATE HILL, LONDON, E.C. (All Communications should reach the Editor on Tuesday.)

TRADE ADVERTISEMENTS are received up to Tuesday morning.

PUBLISHING DEPARTMENT.—All letters containing Subscriptions, Orders, Remittances, SALE and EXCHANGE Advertisements, or other business matters for the AMATEUR PHOTOGRAPHER are to be addressed to the Publishers, HAZELL, WATSON, and VINEY, LD., 1, CREED LANE, LUDGATE HILL, LONDON, E.C. (SALE and EXCHANGE Advertisements, at the charge of Three Words for One Penny, can be received as late as WEDNESDAY MORNING.)

Amateur Photographer" 1891 Stereoscopic Slide Competition, (Fifth Year).—Prizes: Gold, Silver, and Bronze Medals, and Certificates in each class. Competitors can only enter one class, and every competitor must contribute six slides.

CLASS I.—Landscape, Sea Pieces, and River Scenery, with or without figures.

CLASS II.—Architecture, Interior or Exterior.

CLASS III.—The Fine Arts, which may include Sculpture, Art Metal Work, China, Bric-a-Brac.

NOTE.—Past prize-winners will be awarded "Niepce," or progressive medals, should they win a medal of the same value as that which they have been awarded in past Stereoscopic Slide Competitions.

DATE.—All slides must be received on or before October 30th, 1891.

RULES, CONDITIONS, and ENTRY FORMS will be forwarded on receipt of stamped addressed envelope. The application should be endorsed, "STEREOSCOPIC SLIDE COMPETITION," Editor, AMATEUR PHOTOGRAPHER 1, Creed Lane, E.C.

"Amateur Photographer" Monthly Competition No. 30.—"INLAND SCENERY." Last day, NOVEMBER 2ND.—Prizes: Silver and Bronze Medals, with Ribbon and Clasps. One print only to be sent in. Entry forms, etc., on receipt of stamped envelope. Address: Editor, AMATEUR PHOTOGRAPHER, 1, Creed Lane, E.C.

"Amateur Photographer" Monthly Lantern Slide Competition (Seventh).—"ARCHITECTURE (INTERIOR AND EXTERIOR)." Last day, NOVEMBER 19TH.—Two Slides to be sent in. Entry Forms, etc., on receipt of stamped envelope. Address: Editor, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C.

THE judging at the Pall Mall Exhibition does not seem to give universal satisfaction. An exhibitor who has received high honours at Vienna, Brussels, and Amsterdam writes us, "I must confess candidly that I have refrained entirely from exhibiting in England for a long time. I have been sick at heart of the one-idea man. I have found the foreigner to be more liberal in his artistic views by far, and more cosmopolitan in his judgment. All of a sudden we must try to imitate *steel engraving*, even the plate-mark, or be nowhere in exhibitions. Then *sepia drawings*. These have little or no detail, so, to make photographs *imitate a wash water colour*, we must omit detail. Then we have a lot of hair-splitting theories started. We must still prostitute a noble art-science, and get *fuzziness* and no detail at all. I am a bit of a Ruskinite, and would say, instead of perpetrating a photographic heresy, take a brush and learn to do a *real sepia drawing*, instead of an imitation. But then we live in an age of shams, and I suppose those who don't go with the stream must drown. Our judges, as a rule, are men of the hour, having but little sympathy for that which is beautiful, unless 'in the fashion prevailing.'"

WE understand that a photographic society for amateurs is about being formed at Aberdeen. There are in the "granite city" many earnest workers. We shall, doubtless, in a week or so have fuller particulars to place before our readers.

THE entries for the "Junior Competition" must be received on or before the 28th inst. We hope to receive a large number of photographs, as a very considerable number of applications have been received from our "Junior" amateur photographers. The age is limited to eighteen and under.

IN another column a short notice is given of a new photographic Society, the Blackheath Camera Club. A provisional committee has been elected, and particulars may be had upon application to Mr. T. B. Earle, The Cottage, Handen Road, Lee, S.E.

THE Secretary of the Dublin Y.M.C.A. Camera Club writes us with reference to a box of slides recently loaned them: "They were amongst the best ever shown in our buildings, and those who saw them have reason to feel that the lantern-slide is one of the agents contributing the greatest good to the greatest number. They are superb."

A PHOTOGRAPHIC SOCIETY has just been started at Great Yarmouth under the title of the Cromwell Photographic Society; already a considerable number of members have been enrolled.

LAST Saturday evening's exhibition of the 1891 Prize Slides at the Pall Mall Exhibition of the Photographic Society of Great Britain was a great success. We understand that the attendance was the largest this session. The audience, although not demonstrative, appeared to be highly satisfied with the show. The next big show will be at Liverpool on the night of the 29th inst., when, we understand, a hearty welcome will be accorded to slides and lecturer. A large hall has been engaged, and once again we shall find ourselves surrounded by friends who always are pleased to see us in Liverpool. On the 10th prox. the 1891 Slides will be shown by us at Manchester, where they will be certain to be well received, especially as the President and Vice-President of the Manchester Amateur Photographic Society are both prize winners.

"AMATEUR PHOTOGRAPHER" 1891 PRIZE SLIDES.

Prospective Arrangements.

Oct. 27.—Pudsey	Jan. 13.—Edinburgh (afternoon show, private)
" 28.—Dewsbury	" 13.—Edinburgh Phot: Soc:
" 29.—Liverpool Am: Phot: Assoc:	" 14.—Breachin
Nov. 2. Belfast	" 16.—Rodley, near Leeds
" 6.—Carlisle	" 18.—Leeds
" 9.—Preston	" 19.—Sheffield (?)
" 10.—Manchester Am: Phot: [Soc:	" 20.—Sheffield C: C:
" 11.—Kendal	" 21.—Dewsbury
" 12.—Blackburn	" 22.—Holmfirth
" 13.—Liverpool C: Club	" 28.—Huddersfield
" 14.—Douglas, I. of Man (?)	Feb. 1.—Halifax
" 17.—St. Helens	" 2.—Keighley
" 18.—Coventry	" 4.—Cleveland C. C.
" 20.—Louth	" 9.—Wolverhampton
" 23.—Buxton	" 10.—Birkenhead
" 25.—Ashton-under-Lyne	" 16.—East Southsca
" 26.—Barrow-in-Furness	" 17.—Southsea
" 27.—Tunbridge Wells	" 21.—Rossendale
" 30.—Croydon	" 23.—Dukinfield
Dec. 1.—Sutton	" 24.—Stockport
" 4.—Maidstone	" 25.—Oldham
" 8.—Lewes (?)	" 26.—Lancaster
" 9.—Putney	Mar. 2.—Shrewsbury
" 11.—Richmond	" 11.—Dublin
" 15.—Faversham	" 14.—Cork
" 16.—Enfield	" 18.—Cardiff
" 18.—Lewisham	" 21.—Kington (Hereford)
" 21.—Hastings	" 22.—Hereford
" 22.—Brighton	" 23.—Birmingham
Jan. 4.—York	" 25.—Gloucester
" 5.—Darlington	" 29.—Bedford
" 7.—Stockton	April 4.—Peterborough
" 9.—Sunderland	" 7.—Hull
" 11.—Newcastle-on-Tyne	" 12.—Utttoxeter
" 12.—Leith	" 19.—Oxford

Note.—Anyone wishing to have the 1891 Prize Slides should at once send in their applications for any dates not allotted, especially when in the district, in order to save expense in carriage.

ON the 26th inst. the third of the AMATEUR PHOTOGRAPHER "Monday Evenings" will be held at Creed Lane, doors open at 7.30 p.m., commence at 8 o'clock. Mr. Charles W. Hastings will show the lantern slides sent in to Competitions Nos. 5 and 6, "Landscape, Seascape, and River Scenery," "Portraiture and Figure Studies." These will be judged and classified. A very instructive and entertaining evening will result. Some of the Slides are of quite exceptional merit.

Note: 1891 Prize Slides.—Will the applicant from St. Helens kindly send his name and address? His letter has been mislaid. The slides are booked for St. Helens on November 17th.

ON Tuesday last the tenth winter session of instruction in photography was commenced at the Polytechnic Technical Schools, Regent Street, the introductory lecture being given by Mr. W. E. Debenham. He also gave a paper upon "Perspective in Relation to Photography." The lectures will be continued throughout the season on Tuesday evenings. On Thursday evenings Mr. A. W. Dollond will deliver a series of lectures on "The Theory and Technology of Photography." Mr. Valentine Blanchard will deliver six lectures on "Art in Relation to Photography," commencing in February next. Mr. Wolfgang Arnott has also arranged to give practical instruction in "Retouching" in twelve lessons; the first will be given on Friday, the 30th inst. Full particulars of the fees, etc., can be had of Mr. Robert Mitchell, at the schools, 309, Regent Street, W. The value of these lectures and instruction cannot be over-estimated, and we should strongly advise those who can spare the time to take one or other of the subjects.

WE notice that Mr. J. Pattison Gibson is going to deliver three lectures in the Art Gallery, Newcastle-on-Tyne,—October 23rd, "Northumberland, the Castled Shire;" November 6th, "The Tyne and Tyneside;" November 20th, "The Roman Wall." These lectures will be illustrated by means of the optical lantern, the slides being made from the lecturer's own photographs. The people of Newcastle and district have a treat in store.

IN our next issue we expect to announce the actual date of publication of "Photographs of the Year," and we hope next week, through the courtesy of the Council of the Photographic Society, to be able to lay a copy for inspection upon the Secretary's table at their exhibition in Pall Mall. We wish it to be distinctly understood that, after publication, no copies will be sold for less than half a guinea. The twelve reproductions will be well worth framing, and will form a very handsome souvenir of the 1891 Exhibition at Pall Mall.

If "Photographs of the Year at Pall Mall" is a success we shall be tempted to other work of the kind, and feel certain that those who subscribe for the book will be more than satisfied. Several of the pictures are gems, and they are all typical of present-day photography.

Photographic Society of Great Britain.—The following are the lantern arrangements for the coming week:—October 22nd, C. Essenhigh Corke, on "Knowle House;" October 24th, B. J. Edwards, on "A Tour in New Zealand;" October 26th, lantern display by the Field Club; October 28th, J. R. Wright, on "Our Village;" October 29th, lantern slides by Edgar G. Lee and J. T. Field; October 31st, lantern display by the Photographic Club. The next technical meeting will be held at the Gallery on Tuesday, October 27th, at 8 p.m., when the apparatus in the Exhibition will be explained.

Photographs at Norton-le-Moors.—Last week a bazaar was held in aid of the building fund of a new infants' schoolroom for the Norton-le-Moors National Schools. Amongst the many other stalls, Mr. E. B. Wain, an amateur photographer, exhibited a splendid collection of photographs taken by himself, comprising between 200 and 300 views. The exhibits showed to what success even amateur photography might now be carried, and several of the photographs that were shown had been distinguished by having been awarded the AMATEUR PHOTOGRAPHER Silver and Bronze Medals. A collection of the prize photographs illustrating special numbers of the AMATEUR PHOTOGRAPHER, the *Photographic Quarterly*, *Photographic Reporter*, *Sun Artists*, etc., was also shown. Mr. Wain's own photographs, amongst which were those awarded a Silver Medal in the recent AMATEUR PHOTOGRAPHER Competition, "Photography at Home," attracted much attention. In writing us, he says: "Your prize competition pictures were very much admired, and the proceeds of the exhibition, lantern shows, and the sale of a few platinum prints from my negatives by Keene, of Derby, realized £14 14s."

BEGINNERS' DIFFICULTIES.

WE now come to that section of photographic work when beginners' difficulties are as thick as thieves. We have often heard it said by beginners that photography is a charming hobby till it comes to printing and toning. There is no reason why this should be so, however. Good results can be obtained by exercising care, and by attention to details.

In the first place it is advisable for the beginner to purchase his paper ready cut to size. It works out slightly dearer, but is cheaper in the end, because of the smaller chance of finger marking. Commercial papers are prepared to keep a reasonable time, and provided they are kept properly, they will retain their good qualities for some considerable time. When a packet of paper has been purchased, it should be unwrapped from the outer wrappers, and if not enclosed in stearine or wax paper, should then be wrapped in the same; outside this a sheet of blotting-paper soaked in a solution of bicarbonate of soda 1 to 20, and finally an old sheet of sensitised albumenised paper should be placed, and the packet enclosed in an air-tight tin. We have kept paper like this for some months unchanged.

To print is the next operation. Place the negative in the printing frame, and note in which half of the negative falls the densest part of the image, in which detail is desired; place the paper on the film, and put in the back of the printing frame and fasten down. The idea of noting the densest high light is to avoid opening both halves of the frame to watch the progress of printing, as by opening one half only, there is less chance of the paper slipping and thus giving doubled outlines.

The next question is in what light to print. This must be decided by the character of the negative. If very dense or full of harsh contrasts, we may then print in the sun, but otherwise the thinner the negative the weaker should be the light. In fact, with very thin negatives it is advisable to print under two or three thicknesses of tissue paper, or a sheet of opal or ground glass, and only to print in the sun when it is sinking, and the light is decidedly yellow.

Having printed, the next question is to prepare for toning. It is rather a nuisance to have to tone one or two prints only, but if prints are kept any time it becomes more difficult to tone and also to obtain pure whites; in fact, it may be considered an axiom that the longer paper is kept before and after printing, the less satisfactory the tones and the less pure the whites.

Washing prints before fixing should be carried out intelligently and carefully. If you have a dozen prints, do not put them all into one small dish and expect them to wash

themselves. In washing prints, whether before or after toning, one print should never be allowed to lie on top of or overlap another, and the water should be very frequently changed and the prints kept in motion. Many operators recommend washing the prints in salt and water, or in soda

"AMATEUR PHOTOGRAPHER" COMPETITION PICTURES.



"AU REVOIR."

By MRS. S. FRANCIS CLARKE.

and water, and these suggestions are well worth practical trial, as they totally avoid the occurrence of any free nitrate of silver in the paper, by converting it into chloride and carbonate. As to how long it is necessary to wash the prints before toning, the only guide we can give is to say, wash them for at least ten minutes, in three or four changes

of water, after all signs of milkiness in the water have disappeared.

Having chosen the toning-bath from amongst the numerous formulæ extant, proceed to make it up as follows. Dissolve the salt or salts in a little water. Let us take a typical formula to make things plainer :

Chloride of gold	...	...	...	1 gr.
Bicarbonate of soda	...	...	...	10 "
Acetate of soda	...	...	...	30 "
Distilled water	...	...	...	8 oz.

Dissolve the acetate and bicarbonate in 1 cz. of water, and the gold (if not kept in solution) in half an oz.; neutralize the gold by adding a pinch of chalk or soda, add this to the salts, and allow to stand till colourless, or at least six hours, then add the remainder of the water made hot; when the bath is pleasantly warm to the fingers, about 70 deg. F., immerse the prints one by one, turning each print over two or three times until thoroughly saturated with the bath; this means that the whole of the twelve prints will take five or six minutes to put in, and by the time the last print is in, the first shows some sign of change of colour. Continue the toning till on holding the print up to the light the desired tone is obtained.

As soon as a print is toned, place it in salt and water, and treat every print thus. Do not touch hypo or prepare the hypo bath till the toning bath has been put away and the dish washed and put in its place. Always make your fixing bath alkaline with carbonate of soda, about $\frac{1}{4}$ oz. to the pint. Ammonia is often recommended for this, but we think it inferior to the soda. Leave the prints in the fixing bath at least ten minutes, keeping them in constant motion the whole of the time; pour off the fixing solution, and fill up with fresh hypo and leave the prints in for another ten minutes; then take out and drain and throw into water. We shall consider the question of washing prints in a future issue.



Toning Bromide Prints.—Mr. S. Herbert Fry says:—To tone bromide prints with ferricyanide of potassium and nitrate of uranium, it is important to fix, wash, and dry the print before attempting to change the colour. Have a piece of glass larger than the print to be operated upon. Soak the print in clean cold water thoroughly. Lay it down wet, and face upwards, upon the sheet of glass. Take a large handful of cotton wool, soak it like a sponge in clean cold water, and rub it over the surface of the bromide print so as to remove the surplus liquid, and 'squeeze' the print down flat upon the glass. Have some toning solution at hand in a saucer, wring out the water from cotton wool, and soak it in the toning solution. Place a couple of fingers of the left hand upon the same side of the print, and with the cotton wool saturated with toning in the right hand, boldly and freely work it all over the face of the print, until the desired tone is there. Keep the cotton wool well saturated and moving freely, and there will not be any staining. When sufficiently toned remove any surplus ferricyanide solution with the wool, and proceed to wash the print with clean cold water with a fresh cotton wool sponge, until the yellow stain is removed from the fibre of the paper. Sometimes this won't all come out, especially if a very rough-surfaced and absorbent paper be employed; but many prefer a tinted to a white paper effect. There is nothing new in this method, but it is, nevertheless, the best way of using the uranium toner, and to avoid staining and other irregularities. Less solution is required, and no large bath. The toning solution is made as follows: No. 1: Ferricyanide potass, 20 grs.; acetic acid, $\frac{1}{2}$ oz.; water, 10 oz. No. 2: Nitrate uranium, 20 grs.; acetic acid, $\frac{1}{2}$ oz.; water, 10 oz. To be mixed in equal parts before required for use.—*Optical Lantern.*

Letters to the Editor.

DEVELOPMENT.

SIR,—A couple of letters under this head, dealing with the merits of certain specified made-up developers, recall my early troubles in the choice of a developer. Perhaps my experience may be of use. Pyro, preserved and plain, in conjunction respectively with soda, potash, and ammonia, was tried, and iron experimented in. Next hydroquinone came on the scene, and received a trial, but for general negative work nothing answered like pyro (dry) with 10 per cent. solutions of ammonia and bromide. True, dry pyro does not give pretty negatives, but it gives—which is infinitely better—negatives whose printing qualities cannot be beaten. The very stain, which is so much objected to can be utilised instead of density of deposit, when using plates poor in silver. I believe Louis Meldon always uses dry pyro, and aims at a brown negative. Of course, pyro requires understanding and using with intelligence and discrimination. It may, perhaps, be considered that three constituents are not so convenient as the one or two solutions of a made-up developer, but my experience is that this "inconvenience" is in reality a most valuable source of help, by reason of the power it gives of varying the constituents of the developer, and variations must be made to suit plate and subject, as what would be right for, say, an Ilford plate and a flat landscape would simply ruin a Paget or Thomas exposed on an interior. On the score of economy pyro stands well, as from sixty to eighty half-plates can be developed with the contents of a one-ounce bottle—allowing 2 grs. to the ounce, and 3 oz. of developer to each plate, which is, perhaps, rather extravagant. Pyro has been threatened many times, but it still lives, and for negative work will always have a place in the dark-room of, yours truly, Iso.

SIR,—In reply to W. H. Ellis, it would not be desirable to enter into the merits of the many developers in the market. I can only repeat that in my experience Fry's Compound Sulphokinone is far and away the best. Failing this, I should use hydroquinone or eikonogen. May I take this opportunity of saying that, as far as I know, Sulphokinone can only be obtained from the Fry Manufacturing Company, 5, Chandos Street, Charing Cross, as I have had a great many letters on the subject.—Yours, etc,

JOHN POWER.

Finnart House, Ballantrae, Ayrshire,
October 17th, 1891.

* * * *

INTENSIFYING GELATINE NEGATIVES.

SIR,—The report which appears in your journal of the 16th inst., upon the lecture delivered by me at the North Middlesex Photographic Society, entitled "On the Intensification and Reduction of Gelatine Negatives," is somewhat misleading in one or two particulars.

Kindly allow me to correct the statements included in the part described as my "favourite method, by which either the high lights or the half-tone could be strengthened more in proportion than the other." To strengthen the high lights, the negative is whitened completely through, including the highest lights. After washing, it is placed in sodic sulphite until the half-tones only are blackened through; after which it is placed in a rather strong solution of ammonia until blackening is completed.

To strengthen the half-tones, the negative is allowed to stay in the mercury until all but the high lights are whitened. After washing it is placed in the ammonia solution until the half-tones only are blackened, when it is finished by immersion in sodic sulphite. The insertion of this revision will greatly oblige.—Yours faithfully,

ROLAND WHITING.

Oct. 17th, 1891.

EXHIBITIONS.

SOCIETY.	Place.	Open.	Close.	Last date for sending in.	Secretary.
Phot. Soc. of Great Britain	London.	Sept. 28.	Nov. 12.	Sept. 16	H. A. Lawrence, 50, Great Russell Street, W.C.
Tunbridge Wells	Tunbridge Wells.	Nov. 25.	Nov. 28.	.....	Joseph Chamberlain, 14, Calverley Park Gardens, Tunbridge Wells.
Art Gallery Committee ...	Leeds.	Dec. 7.	Jan. 9.	Nov. 27.	Geo. Birkett, Municipal Art Gallery, Leeds.

LOSS OF TONE.

SIR,—I so frequently see complaints of loss of tone in photographs that I venture to suggest an experiment I have tried with success. It is washing the prints at first in quite hot water. I then wash in colder, and tone in a very warm borax bath. I use no ammonia in the fixing bath. I send you a print as a specimen. Of course, Celerotype paper must be washed and toned cold.—
Yours truly,
ETHELDRED DILLON.

NOTE:—The print is of good even tone.—ED: AM: PHOT.

* * * *

A NOVEL VENTILATOR.

SIR,—Seeing a query (No. 4,976, in your issue of August 28th) re making the conditions of a dark-room more healthy, I send the following, which is as good a foul-air escape as I know of.

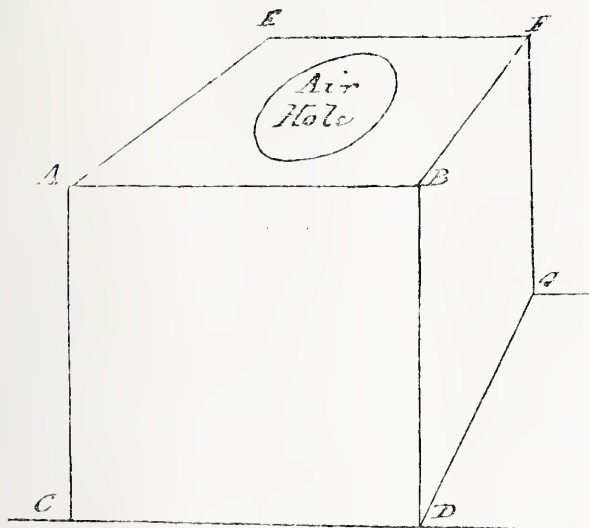


Fig. 1.

I do not know whether the idea is new, but I saw it in a dark-room at Trincomalie, one of the hottest places in Ceylon.

The ventilator consists of two boxes, one inside the other, both without bottoms.

Fig. 1 shows the outside box, with air-hole on the top. Dimen-

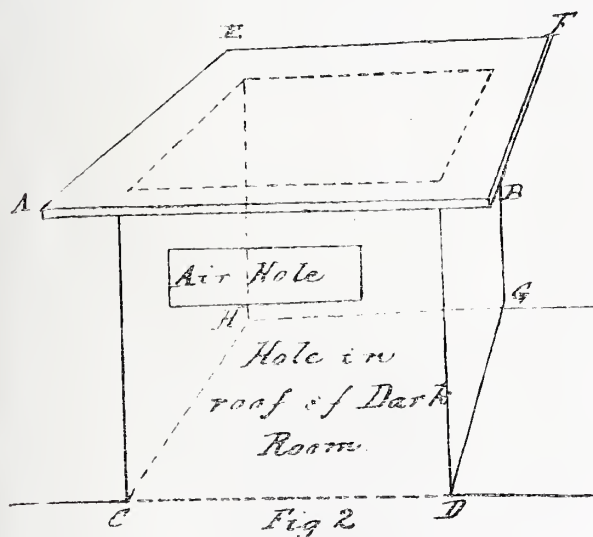


Fig. 2.

sions of outside box will depend on size of dark-room, but between 2 ft. or 3 ft. square will do.

Fig. 2 is the inside box. The lid of it projects, and a space is left between it and the inside of outer box for passage of air into dark-room. Oblong air-holes are cut in each of the four sides. The projecting lid is to prevent light from air-hole of

outer box coming through the air-holes of inner. A hole is cut in the roof of the dark-room, and the inner box fits over it.

Fig. 3 shows the ventilator complete.

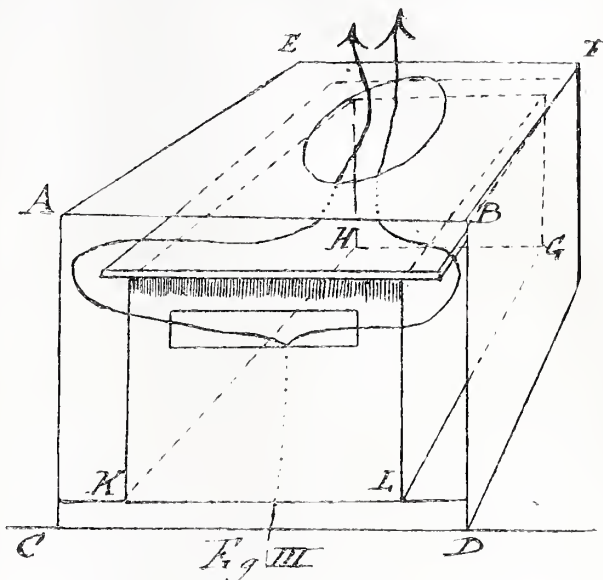
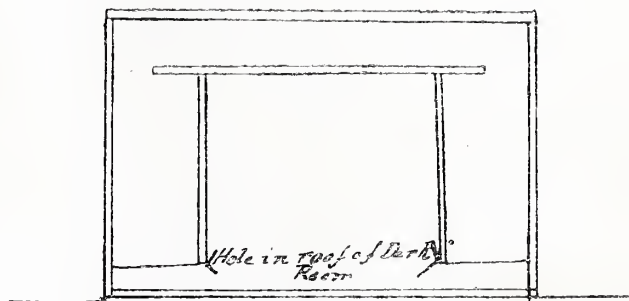


Fig. 3.



Section.

The front A B C D of outer box in fig. 3 is supposed to be removed to show interior. The arrows show how foul air escapes. H G K L is the hole in roof of dark-room.

A capital ventilator is mentioned in the *British Journal* for 1888, page 363. If a wind-sail is rigged up, a perfect gale would blow in the dark-room!

CENTURION.

Colombo, Sept. 19th, 1891.

* * * *

PHOTOGRAPHS AT THE PALL MALL EXHIBITION.

SIR,—Your critique on the Pall Mall Exhibition contains serious objection to an important point in my photograph, "All Illumined in a Rustic Glory," and a challenge for a reply. The negative is untouched. The effect is one frequently to be seen when the sun is bright and low. The loose, bright golden hair has caught and reflected the light to an extent seemingly incredible to your critic. The plate having failed to render this strong yet delicate light with sufficient, what one may perhaps term, fluidity, a very little brush work has been done on the print to break up the too great solidity of the mass of light forming the "halo." What little hand work there is then is on the print, not on the negative, and tends in exactly the opposite direction to that suggested by your critic.

Did time permit, I would willingly break a lance in defence of "Hedge" and his wife, but for the present I am content to explain that in the life of Hedge and his family, whom your critic will have none of, I find sufficient matter of artistic and human interest to add an additional fascination to our already charming Surrey country.—I am, Sir, yours, etc.,

October 20th, 1891.

RALPH W. ROBINSON.

Photographic Procedure.

By E. J. WALL,

Author of the "Dictionary of Photography."

SECTION II.—THE LENS.

The Lens.—This is the most important and at the same time the most expensive part of a photographer's outfit. Too much care cannot be taken, therefore, in choosing or in keeping the same. Lenses should always be kept, when not in use, in a leather case, or else in a tin box padded with wool or washleather to prevent the access of light, air, and dust. The inside of the lens tube, and the diaphragms should be occasionally re-blackened to avoid disturbing reflections. If the lenses become dusty or somewhat dim, they should be most carefully and tenderly wiped with a piece of soft silk or washleather, and when it is necessary to clean the internal surfaces of lenses (doublets, portraits, etc.), it is advisable to remove one combination and clean it, and then replace it before unscrewing another combination to clean; by this means displacement of the combinations cannot take place. With some old lenses a peculiar tree-like marking makes its appearance, which, to uninitiated eyes, appears to be in the middle of the glass. This is due to the balsam which is used in cementing the glasses of the combination together becoming old and starring. In such a case it is advisable, if the lens is worth anything at all, to send it to an optician, who will unset the lens and properly recement and reset it; if the lens is not of much value, and the owner is desirous of trying his hand at a practical remedy, the lens should be placed in some methylated spirit or turpentine in a water bath and gradually heated, when the cement will be softened. The two glasses can then be taken apart, well wiped and cleaned, and re-cemented by a drop or two of Canada balsam, and gently warming. If, by accident, one of the lenses should be scratched, it is preferable to fill the scratch with black varnish, as the loss of light is in this case preferable to the disturbing reflections of the scratch.

The following notes on choosing and testing a lens are written from a practical standpoint, and if an accurate scientific examination is required, it would be advisable to send the lens to the Testing Department at Kew, but if a lens answers successfully to the tests described below, it may be accepted as *practically* perfect.

The first point to decide in choosing a lens is to determine for what class of work it will be required, but presuming that my readers are amateurs, and many of them will be or have to be content with one lens, then a doublet or rapid rectilinear should be chosen. Perhaps it would be advisable to state for the benefit of those who are totally ignorant of the different forms of lenses, that there are three main classes in lenses: (1) Portrait lenses, specially constructed for the requirements of portraiture; (2) doublet or rapid rectilinear lenses, which are constructed for architectural work, groups, copying, and landscapes, and may be termed universal lenses; (3) landscape, or single lenses, which are most suitable for pure landscape work. Subdivisions of these classes will be described later on. We have recommended the doublet lens for all-round work for the amateur as the most suitable lens, and which may be used for portraits, groups, architectural work, both exterior and interior, and landscapes. The next point to decide is the focal length of the lens; this is usually fixed by the optician at a certain length, which increases with the size of plate for which the lens is required. The following may be

assumed to be the focal length of the majority of commercial lenses for the given size plates:—

For $4\frac{1}{4} \times 3\frac{1}{4}$ or $\frac{1}{4}$ -plate,	the lens is usually	4	to	5	in. focus.
For 5×4	"	"	"	$5\frac{1}{2}$	" 6 "
For $6\frac{1}{2} \times 4\frac{3}{4}$ or $\frac{1}{2}$ -plate,	"	"	"	8	" 9 "
For 7×5	"	"	"	9	" 10 "
For $8\frac{1}{2} \times 6\frac{1}{2}$ or $\frac{1}{2}$ -plate,	"	"	"	10	" 11 "
For 10×8	"	"	"	12	" 14 "
For 12×10	"	"	"	15	" 16 "

If more than one lens is required, I strongly advise the second lens should be a long focus single or landscape lens of a focal length equal to $1\frac{1}{2}$ times that of the doublet. If a third lens is required, then a doublet, of short focus, may be chosen, the focus being about two-thirds that of the doublet. Thus, for a half-plate, we have first a rectilinear of 9 in. focus, then a single lens of $13\frac{1}{2}$ ins., and, lastly, a second doublet of 6 in. focus. Such a set of lenses will enable us to obtain pictures of almost every character, and to obtain the images of objects varying in size. (See WIDE ANGLE.)

Many an amateur possessing a single or landscape lens which he may have purchased at the outset with his outfit years for a doublet, in the hope of improving his pictures, acting under the very general impression that far finer results are given by the latter lens. This, however, is a mistake. The sole superiority of a doublet consists in its working at a larger aperture, and in being free from distortion (*q. v.*) It may, perhaps, be of interest to some if I state that on examining my register of exposures for the last three months, I find that out of 137 exposures a doublet was only used twenty-three times; of these in nineteen instances it was for copying diagrams, the other four for interiors. There is a good deal of talk about distortion caused by single lenses, but few would be able to detect the same in my prints, many of which have buildings included in the views. We shall, however, refer to this again.

TESTING A LENS.—The first point to decide in testing a lens is its equivalent focus or focal length; the second point, the ratio aperture of the diaphragms; the third, covering power of the lens; (4) the flatness of the field; (5) the freedom from spherical and chromatic aberrations; (6) the freedom from flare and ghosts; (7) the accurate centring of the lenses; (8) the perfect polishing of the surfaces; (9) the freedom from striae or waves.

(1) *To Determine the Equivalent Focus.*—Several methods are given under this heading further on, and the operator may take his choice.

(2) *To Determine the Ratio Aperture of the Diaphragms.*—This is described under diaphragms (*q. v.*)

(3) *The Covering Power of the Lens.*—To determine the covering power of the lens is by no means a difficult object, especially if the lens be used with a given sized plate, that is for the one for which it is advertised. Many lenses will with small diaphragms cover a much larger plate than that for which they are designed, and all lenses will cover a smaller plate. If you wish to test whether a lens will cover a given sized plate, all that you require to do is to affix the lens to the front of a camera which has a focussing screen of the given size, and then focus till you obtain a sharp image at the centre; it will be at once seen whether the lens will cover. But it is not only necessary that a lens should cover a given sized plate, but most photographers require that, besides covering a plate, a lens should give good definition all over a plate, which is a totally different thing. Many a lens will cover a plate and yet give very poor definition at the margins, because either (*a*) the spherical aberration for oblique pencils is not corrected, or (*b*) it has a very curved field. For special purposes such as hand-camera and instantaneous work it is now considered

absolutely necessary that a lens shall give sharp definition over the entire surface of the plate for which it is intended. It is often suggested that to test for this in a lens the best plan is to set up a sheet of newspaper and, focussing sharply, to examine the definition with a compound focusser. Personally I prefer to make a practical test as suggested by Mr. W. E. Debenham, as follows:

In order to arrive at a judgment as to whether a lens defines as sharply as it should do, it is necessary to have something which represents the standard of sharpness expected from the particular kind of lens. There is no recognised standard, and, for want of it, such absurd expressions as "as sharp as a needle" have sometimes been used to describe exceptionally fine definition. Perhaps the Congress at Paris may settle upon something in the way of a standard for the defining power of lenses. Meanwhile, however, we will describe the standard which we have employed, and which has served to make the work of various lenses comparable. We take a sheet of printed matter that is always to be had of one-sized type (nonpareil), namely, the "Births, Deaths, and Marriages" column of the *Standard* newspaper. This column is placed slantwise, the top of the column being farthest from the plate, but each particular line runs square across it as before directed, in the middle of the column, and at such a distance that when a printed line is focussed in the centre of the field, the image is one-eighth of the original size. The width of two columns in the focussing screen will be just over five-eighths of an inch. With a good portrait lens having an aperture of one-fourth of the focus, the standard adopted as unity by the Photographic Society of Great Britain up to, say, a 12 in. lens, at all events, the definition in the centre of the field should be such that the small type will, on examination with an eye-piece, be quite legible. The same test may be employed for all lenses, and those professing to be aplanatic will for the most part be found to pass it, though with different degrees of perfection. Of course, by stopping down, almost any lens may be made to define well, at all events, in the centre of the field, but we are speaking of lenses worked with the largest apertures with which they are supplied, and which, in most lenses of the Steinheil aplanatic type—rapid rectilinear, rapid symmetrical, Euryscope, etc.—will be found from $f/7$ to $f/9$. In the newer forms of cemented aplanatic lenses, in which the glass from the Jena factory has been utilised, somewhat larger apertures have been practicable, but whatever the aperture is, it is to be supposed that good definition is obtainable with it, and therefore the test mentioned may be fairly employed.

When we come to examining the defining power of the lens at some distance from the centre of the field, we shall find with rapid lenses that there is a very great falling off. Taking again as an example a portrait lens of 12 in. focus and of aperture $f/4$, and skewing round the camera so that the image is rendered at a distance of 2 in. from the centre of the focussing screen, we shall find that the small type of our newspaper column is no longer readable. The larger type used for the heading "Marriages," etc., should still be legible, but nothing more. Now insert diaphragm $f/8$, No. 4 on the universal system, and the small type again becomes distinguishable. With a Steinheil type lens of $f/8$ aperture the definition at this angle may be expected to be still satisfactory without further stopping down.

This then is Mr. Debenham's method; personally I use a modification of it, only in that I cut out several of such columns as he mentions, and paste them on a piece of stout millboard, which is framed to keep it flat. Diagonally across the centre is pasted an ordinary inch tape. The whole arrangement is then hung up flat against the wall, and the camera set up and the image focussed till reduced to one-eighth in size, as suggested by Mr. Debenham. I may remark here that focussing is not effected in the ordinary way on the ground-glass of the camera, but on a specially prepared sheet of obscured glass inserted in the dark slide, which is slid into the grooves at the back of the camera. The specially prepared sheet of obscured glass was made by me by slightly etching the surface of a perfectly true piece of thin plate-glass by means of hydrofluoric acid, and this sheet, when looked through, shows merely a very thin milky haze, which shows no grain, the centre being marked by a cross in fine Indian ink. Focussing is easily effected by means of a magnifier, and the centre of the screen is made to coincide with the central division of the inch tape. The dark slide is now removed, a slow dry plate inserted in the dark-room, and an exposure

made, and the plate developed, and the resulting negative, when dry, carefully examined by the magnifier. The image of the inch tape at once affords a guide as to the limit of sharp focus, and it is therefore possible to state without trouble the extent of sharp focus expressed in terms of the focal length as suggested by Mr. Debenham. For example, a lens was received for examination which gave the following data:—

Equivalent focus	..	..	11½ in.
Working aperture	..	..	$f/7.9$.
Ratio aperture of largest diaphragm	..	..	$f/8$.
Limit of sharp focus	..	..	$f/825 = 9.5$ in.

This lens would therefore cover any plate *sharply* the diagonal of which was not more than $9\frac{1}{2}$ in.

In the case of small lenses, or lenses of short focus, I should say, I prefer a still more practical test, and that is to focus sharply, as described above, on the bricks of the houses opposite my first-floor window, throwing the window, at which I place the camera, open. Now these bricks are just 52 feet (by actual measurement) from the point at which the lens is placed, an exposure is made, and the results examined on the negative. This test more nearly approaches the conditions of practical work.

(To be continued.)



A Plea for Composition in Photography.

By LYDDELL SAWYER.

IF I allude to the remarks about my exhibits which appear in the *AMATEUR PHOTOGRAPHER*, among the criticisms of the pictures now at Pall Mall, I should like it to be understood that I do so because I am anxious to uphold that form of work on principle rather than that I individually object to this, in many ways, sound comment.

I don't know who is the writer, but it is, as a whole, evidently the work of some one with excellent discriminating power, and it has a genuine ring of real criticism, which makes me all the more anxious that it should be used in what I venture to consider, from my point of view, the best manner to further the higher aims of photography.

It always seems to me as very unfortunate for the photographer that when he has produced any kind of composition work his critics have the power to view it with the knowledge before them that the models and effects must have been more or less primarily arranged. It is of no avail, whatever natural skill may be employed in the treatment, invention, and composition of the picture; still, from the recognised nature of the photographic process, it is certain to the onlooker's mind that the effects must have been to some greater or lesser extent prepared for; that they are, in fact, not merely the result of accident; that the photographer has dared to attempt to create: and this certain conviction—however unconsciously it may be used—undoubtedly detrimentally biases and increases the severity of the comments indulged in in connection with this class of work.

Apart from any injustice in the case, I cannot help thinking it a very short-sighted general policy which has held critics in many cases that I could mention, through their eagerness to appear "knowing," to get hold of entirely "the wrong end of the stick," and plentifully attribute faults where they did not exist, and when, instead, their duty in the interests of photographic advancement required that they should have rather given encouragement. It is rashly impolitic,

and does much to retard the surely already small enough art claims of photography. Even if artificiality was very apparent in photographic pictures, the student should be kindly led beyond his faults, instead of his budding aspirations being in the outset killed by satire. This more kindly toleration, added to increasing experience and emulative competition in this all-important direction of creative photography, would gradually eliminate crudeness and exaggerations, and *artists* then might have some chance to eventually take the higher places in our profession, which are now as likely as not found to be filled by people whose claims are less or more confined to luck, money to buy plates, and a ready capacity for "accidentally" alighting on spots where good views have already been taken.

And what is the result of this continued damming up of the principal art outlets of photography? Look around the present indifferent show at Pall Mall for an answer. Shall I say *fortunately* atmosphere is allowed by the "advanced" school, and the walls, as a consequence, are covered with such an array of "misty mornings," "foggy evenings," and divers other parts of the twenty-four hours under atmospheric conditions, all so distinctly damp that it might not be surprising if the visitor left the room to be put straight to bed suffering from influenza!

Nevertheless, some of the pictures of this kind are very fine, and *in moderation* it is a charming form of photography. That I, to an extent, sympathise with these aerial effects, I can perhaps best prove by having done a share in the foggy and smoky line myself, but I would not have it the sole end and aim in photography, and photographers all divested of sufficient courage to venture anything beyond it.

The modern monotonous fashion for misty effects will work itself out, as every excess of fashion eventually does; and what then? Is some new fad again to reign? Or are we not now advanced enough to accept the fact that photography is not itself an art, but only an art-producing tool—in a more limited sense, a tool as is the brush of the painter, the chisel of the sculptor, which may delineate art themes, when such art themes may have been in a legitimate manner first conceived, created, invented, composed in the minds of men possessing the necessary amount of art genius? I consider it a great slur on us generally that it is possible for such superficial workers to obtain reputation as artists without knowledge, without training, oftentimes without even intuitive taste, but simply that they are allowed unquestioned to take advantage of the fact that photography, unlike other artistic tools, will, from the nature of its optical and chemical materials, represent scenes more or less gracefully without any artistic capability on the part of the manipulator.

While the leaders are content to let this haphazard, easy-graded "royal road to fame" dominate in photography, why, just so long must they be also content to have its art powers justly doubted, and the outer world regard it as a toy.

The critic in the AMATEUR PHOTOGRAPHER is good enough to express regret that I do not show more of my "Smoky Tyne" class of subject this year. Well, as a picture, I freely state that I also think it has merit; but what part of it can I claim? There is scarcely another photograph I have that I feel so little right to accept award for.

I went two or three times to the neighbourhood of the scene, selected the spot, noticed the best position of light, waited for a suitable day, then went and took it—the usual landscape photographer's formula; but apart from mere selection of scene, light, and atmosphere, which *might* have all been accidentally got, what share of the picturesque quality is mine? What is to prevent any one else, with reasonable technical experience and a little luck as to light and passing boats, from going and doing likewise?

It is not my province to uphold these artificial-light pictures of mine at Pall Mall, to argue whether they are more clever than artistic, as the AMATEUR PHOTOGRAPHER criticism suggests, or to question much if there is legitimate room for exclamation because it is thought I have used magnesium to represent candlelight. I think in these pictures, if it could be managed that less of the methods of production were known and *guessed at*, the finished results alone would claim a much more diffident style of criticism. But then that opinion may be due to my prejudice.

One of the Photographic Society Exhibition judges told me what he objected to was, that the light could not have fallen on the edge of the blind man's Bible from the elevation of the source suggested, in "Lighten our Darkness, O Lord." Well, this objection, I venture to state, was not of the smallest moment, even if it existed, although as a matter of fact the light *did* come from the height as indicated. All the same, this "keenness" of perception, in this and similar directions, possibly lost me a medal this year.

Another objection I have heard is that a blind man does not require a light to read; but the blind man is a beggar, and requires his patrons to see him and what he is doing, so that he may gather the necessary number of coppers to enable him to subsist and so continue reading.

However, I do not wish it to be considered I am desiring to defend these pictures beyond the principle they suggest. I have plenty of kindly disposed critics without myself egotistically taking up the cudgels, and the writer in the AMATEUR PHOTOGRAPHER, I feel, I may claim among these, for from the particular standpoint he takes I consider the judgments very fair and considerate.

But I would on broader principles mightily like to see creative photography upheld by its leaders and critics. They should, indeed, in this direction "each small defect with regret deservy, and mark the beauties with a raptured eye." They should look upon it as the most solid means of making photography eventually approach the fine arts, instead of allowing it to be tacitly accepted that this pictorial perfection is beyond its sphere.

I do not hesitate to prophecy that sooner or later this will be recognised as the highest goal in photography; and why should we not start this recognition now?

Assist the earnest and true student to have a purpose beyond the pretty but comparatively circumscribed process of photographing simple landscape. Urge him to leave these to lighter pleasure triflers, or seekers after cheap reputations, and work with the greater aim of being an artist as well as a photographer. Aid him to strive after making every line, every touch of light, every modulation and expression subject to his modification "for better or for worse."

Doubtless, from want of examples, his way will be beset with many misconceptions, false effects, and consequent failures, thanks to the strenuous efforts that have been made to repudiate and stamp out this class of work, but generous encouragement, perseverance, and time will remedy this. Success would bring with it the proud conviction of deserving acceptance as an artist. If failure came, why, at least the student would avoid the present ignoble fashion of building an "art" representation on a false foundation; he could at the worst exclaim with Touchstone, "An ill-favoured thing, sir, but *mine own*."

Is it True?—A correspondent writes:—"I saw at a stationer's a few days since a small-sized scrap-book with the title 'Chamber of Horrors' on the cover, and my curiosity being aroused by this, as on investigation the leaves of the book were blank, I enquired of the shopman the meaning of the title. 'Oh! sir,' he replied, 'it's for amateurs' photographs!' I fled."

Studies in Art for Photographers.

By REV. F. C. LAMBERT, M.A.

CHAPTER XIV.

THE USE OF LAWS OF COMPOSITION.

IN every age there seem to exist a certain number of people who are irresistibly impressed with the idea that their mission in life is to "reform" everything and everybody. What has commanded the respect or admiration of past ages is condemned by them as "antiquated," and so on. Nor does the province of fine art in our own day prove any exception. Among the photographic fraternity there are some who blandly assert that what has commended itself to painters for many generations past has little or no bearing upon photography. The position they take up is somewhat as follows: "The artist, like the poet, is born, not made. What, then, can be the use of laws to a 'born artist'; or, on the other hand, if a man be not a 'born artist' no laws can make an artist of him."

Now, this candid and apparently unanswerable proposition is quite worthy of an equally candid reply. Let us examine it somewhat more closely. In the first place the fundamental proposition admits of two different renderings: (1) Either that the "born artist" is so born that he is fully equipped for his work and needs no teaching, training, or practice, so that his work as a child should be fully equal to that produced in mature age. (2) Or it means that the "artist born" is born with a capacity such that, under suitable circumstances, he may become a producer of art work. The former position will hardly be held by even the most ardent of the "down-with everything" school. Thus we fall back upon the second position, and one which is amply supported by the life history of all whose names we love to honour, and whose work speaks their fame.

Our inquiry then resolves itself into considering in what way the so-called laws of art may be brought to bear upon the education and training of one who is born with a developable art capacity. And in this connection it is interesting to note how many people regard pictorial fine art as quite separate and apart from her sister arts—music, or the drama, for instance. There are many men who are equally ignorant of the fundamental principles of fine art and, say, astronomy or shipbuilding. Concerning the date of an eclipse, or the sailing powers of a vessel, they would probably hesitate in affirming an opinion, but without a moment's hesitation they would point out the better of two pictures. Their dictum is usually prefaced by the bland admission, "I'm no artist, but I know what I like." To such an one an artist (*i.e.*, and by that term is usually understood a "painter in oils") is a clever and somewhat superior kind of conjurer in drawing and painting. His work is supposed to be done more by knack than by knowledge. This mental attitude gradually has been modernised somewhat into saying that the artist is a law unto himself. And by that ingenious expression is meant that the "born artist" shows his art by being different from every one else, not only in his work but in his method. Hence it is deduced (by a mental process not overburdened with logic) that there are no laws in fine art. The misconception here is two-fold: firstly concerning the nature of a law; secondly, its use.

By the word law is meant simply a brief expression of the general practice of the majority of most successful workers. And although, in general, certain broad underlying principles are found in the majority of the best works, yet each worker modifies the application according to his own special needs. The use of a knowledge of

these laws is as it were a knowledge of the use to which certain means may be applied.

Let us take the case of a person, a "born" poet or musician, for instance. The former may have a brilliant imagination, an elegant fancy, but before he can convey from his own to the minds of others his poetic fancies and images, he must first clothe them in language "understood of the people." If he chose to use words in a manner quite different from that of his hearers or readers, how can it be otherwise than that he is predestinating himself to be misunderstood? It is, of course, quite true that the most brilliant facility for making verse will not make a poet. At the same time, the most poetic ideas are nothing to anyone, except the possessor, until they are adequately expressed. It may be urged that Burns, with little or no education, was able to express his ideas perfectly; perhaps that may be the case, but even if it were so, it does not entitle us to assume that had his knowledge of the resources of our language been greater, his utterances would not have been proportionately enriched.

It is the exception rather than the rule when the native of any country studies the grammatical form and structure of the tongue of his companions. He is so constantly using language as a means of communicating his ideas, that he fails to observe that it is partly by the process of *imitating* others, and partly by experimentally using another word or sentence when misunderstood, that he is (almost unconsciously) registering certain effective methods of expression. There are only a few among us who, in like manner, are in constant habit of using their eyes for observing form and colour, and associating certain ideas therewith. The observant predominates over the analytical mental function, and thus unconsciously the observer is storing his memory with typical forms and combinations, and also elaborating general underlying principles. Hence it frequently comes about that the observant student applies the principle deduced from his well-stored memory without being conscious to himself of the process. Or we may otherwise express it saying that by his own personal observation he has deduced an underlying principle or law, and unconsciously applies it by a process which he may perhaps please to term artistic feeling. Thus both the observant and the analytical type of mind arrive at the same law or general underlying principle, but by different methods. The former rediscovers for himself what has been already many times discovered by others. The latter prefers the shorter method of accepting the general consensus of successful workers. It is more than probable that the word law itself has much to answer for in the way of misconception. One is so apt to regard a law as an inflexible rule—as those of the Moeds and Persians—whereas in this case it is in no sense a rule. Its office is not to hinder but to help, not to restrain or retard, but to assist and forward the worker, who probably has a mental image clear enough, yet has not had *sufficient experience* to guide him as to the *most effective method* of expressing his idea.

It has been asserted that this view tends to cramp originality. This is not by any means a logical sequence. Showing a man the collective experience of others need not in any degree compel him to imitation; but, on the contrary, by widening his area of observation, better his chances of discovering a further addition to the well-tried and effective methods.

A knowledge of the laws of composition of pictorial art (or the general principles and usual methods used by successful painters in selecting and arranging the component part of their work) will not make an artist. In other words, a knowledge of words and sentences will not make an author. Words will not supply ideas. But be it observed

that by means of a knowledge of words (their meanings, possible arrangements, etc.) is the author enabled to convey to your mind the ideas he has in his own.

During the present century probably no author has been more widely read and enjoyed than Charles Dickens. Yet even his most ardent admirers admit that his *plots* are weak as compared with many others. His strength lay in a vivid conception of character and a splendid resource of the powers of more or less commonplace language, enabling him to convey, bit by bit, to the mind of the reader that mental image which must have been so incisive and vivid in his own.

At no time more than at the present moment is some such reminder as this needed. It is so easy to produce photographs—of a kind—that we are in danger of being smothered with absolutely meaningless productions. In the majority of cases these productions are by naturalists of the cruder sort, *i.e.*, having some kind of hazy notion that all nature is equally attractive. Some are bold enough to say that man has no business to select or reject, but that his business is to take nature exactly as he finds her; while others prefer the song of the nightingale to the midnight voicings of their neighbour's cat. Day by day it is increasingly enforced upon the student that there is in photography a dangerous (often fatal) facility of production. Quantity is aimed at rather than quality. In an enormous proportion of exhibited productions there is very little if anything of what can be called true sentiment. Poetic feeling is chiefly conspicuous by its absence. The average photograph is a diagram rather than picture, *i.e.*, a source of imagination and suggestion.

If photographers would only give more detailed study to good pictures, and strive to follow the ideas of the painter (noting how different workers vary or coincide), they would, as a rule, find themselves greatly enriched in their own *methods of expression*. Knowledge of the laws of pictorial composition will not supply ideas any more than will the laws of syntax, but the more good pictures one studies the more will one's own stock of ideas grow, and the more will one's own powers of *observation* and *imagination* and *expression* extend.

It is an old saying that "speaking makes a ready man, but reading makes a full man," and what are pictures but the writings of men who use form and colour, etc., in place of words and sentences?

(To be continued.)

How to Mount Photographs Without Cockling.

By FRED DAVIES.

MOST people who have mounted photographs are painfully aware of a strong tendency exhibited by the mount to cockle up in ridges when the print is fastened upon it, however flat the card and print were before the operation commenced. The cause of this disagreeable result lies in the fact that the mountant has been hitherto, in such cases, a solution of some adhesive material in water, such as that commonly known as paste, made either with flour, rice, or other similar substance, or some more fixed adhesive such as gum dextrine. These substances, however, are difficult to keep in a fresh and undecomposed state, and so a solution of gelatine in spirit and water has been suggested. But all these adherents have the same defect in a greater or less degree, for their dissolvent enters into and expands the photograph to a size larger than it occupied when dry; and when the print is mounted, as it dries it contracts again, pulling up the mount with immense force and making it cockle. With a view to obviate this disagreeable result, which is very apparent where the photographs are mounted in a scrap-book, a solution of india-

rubber in benzine has been tried, but the unpleasant odour and other objections have greatly militated against its general employment. The only certain way therefore of avoiding this fault is to employ a mounting medium which is soluble by such moderate heat as will not tend to injure the photographs proposed to be mounted. Such a substance is to be found in ordinary carpenter's glue. But it is not everyone who is able to use this efficiently; and so, with a view to facilitate its employment, the following method is suggested—it is a perfect process, and if properly carried out will amply repay the slight trouble attending it. The materials required are: a solution of best glue about the thickness of ordinary gum water; a flat slab of wood, such as a drawing board; a few fine ordinary household pins; a broad soft glue brush; and a "cool" warmed flat iron.

The *modus operandi* is as follows: Make the photographs quite dry and flat by passing them over the edge of a table or placing them face downwards upon blotting paper and scraping them with the edge of a paper-knife until they are quite flat. Mark the exact position to be occupied on the mount. Pin the photograph face downwards on the drawing-board by means of four fine household pins, and give the photographs a thin, even coating of the glue; let it set, which it will do in about thirty seconds, and as soon as it has ceased to be sticky lay it glued side downward upon the marked mount, cover it with one thickness of blotting-paper, and pass the iron over it. The heat from the iron will just melt the newly set glue, and firmly attach both the surfaces together without the slightest cockling. This is an excellent method also where the edges of maps need joining, as it does not expand the paper and throw the lines out of alignment.

What to do with Under-exposed Negatives.

By WALTER E. WOODBURY.

I AM not going to suppose that this idea is a new one by any means, but I believe it is one that a large number of amateurs are still ignorant of. There are few amateurs who can who have thoroughly mastered the question of exposure, and the majority of their negatives are either under or over exposed. Now with an over-exposed plate we can often get a passable negative by suitable treatment, but with an under-exposed plate the case is usually a hopeless one, and the negative is usually placed aside to be thrown into the dust-bin. Before taking such a rash proceeding, however, let us pause and think. An under-exposed negative is useless as a negative—that is decided upon—but can it not be made to serve as a positive? Nothing simpler than to try. Well wash it, and immerse in a saturated solution of bichloride of mercury. Here allow it to remain until it is bleached quite white. The next operation is to well wash and dry. By placing a piece of black cloth or paper behind, we have a perfect positive, very soft and delicate.

The best method of finishing off is to attach a piece of black cloth to the film side by glueing the corners; the plate can then be framed or mounted behind a cut out mount. If the bichloride of mercury is allowed to act sufficiently deep, either side can be used. Of course, the picture is seen correctly by looking through the plain-glass side, although the best effect is usually got from the other.

I shall be very pleased if this idea is of any use to any others. I found it very useful before I took to using Paget Prize plates, but now I hardly ever have an under-exposed plate to practise upon.

Ferrotypes Dry Plates.—Mr. L. Nievsky has shown us some results obtained on a new ferrotypes dry plate which he is introducing into the market and, judging from the number of queries we have received for such a plate, and the ease with which good results can be obtained, it ought to have a good sale. The exposure required in the camera in a good light is about five seconds, and the development is effected very quickly. These plates are also useful for obtaining quick and rapid results from positives; it is possible to obtain, by contact printing from a lantern slide, a finished and dried picture in less than five minutes.

How I Started a Successful Society.—VIII.

(Continued from page 278.)

BY A PROVINCIAL.

HAVING in my last written about our executive, and also on the subject of our first annual meeting and of the report, I might perhaps fitly enough have concluded, but before doing so I wished to supplement the seven somewhat solid courses hitherto served up by one consisting of sweets, and then make an end with what I may not unaptly call a mouthful of Chartreuse. In other words, I desire to describe those items which in our early days we provided in the nature of extra attractions. Our society was barely six months old before the executive, itching to distinguish themselves, no doubt, decided that our members required a little change of diet. Two forms of delectable variety were suggested; either a big photographic special entertainment by a distinguished outsider, or else some species of social gathering of members and their friends; being in doubt, we played trumps, *i.e.* decided upon both, judging that the above would not merely knit members closer together, but bring the society more prominently before the public and thereby ensure an accession of supporters.

First of these two assemblages was a "grand optical lantern exhibition of prize-medal slides," as our programme read, by which we described one of the sets yearly sent out by the Editor of the AMATEUR PHOTOGRAPHER similar to that shown at the Photographic Society of Great Britain's Exhibition on the evening of October 17th. It was our good fortune to be able to avail ourselves of the explanatory remarks with which Mr. Charles W. Hastings instructed and entertained us. The result was that we had a large and a delighted audience. Admission was by card of invitation, of which a number in excess of the seating accommodation was sent out, so that there might not be any waste of space. We found that three tickets for every two seats comfortably filled the room at our disposal.

The chief actors in the above, *i.e.*, Lecturer, President, Secretaries, and committeemen, were, "for one night only," apparelled in stately "claw-hammer;" a custom, I think, more honoured in the observance than in the breach thereof, when such important and largely attended gatherings are held, for it is well to drive out of the public's too retentive mind the fallacious notion that photographers are a whit less spruce than their fellow men. If all, or some of us, have, in the course of our devotion to the art-science, developed our previously latent sense of nature and abstract beauty, let it be well understood that this acquired artistic superiority has not been gained at the expense of slovenly attire or a disregard to the better forms of social usage.

To such who may be planning a phenomenal slide-show and who are new to the business, let me say, from personal and otherwise accumulated experience, that many obscure and heartrending breakdowns of all sorts and conditions dodge the footsteps of the optical lantern, and few operators who undertake to manage the showing do so without feeling that a sword of Damocles is really to fall at any moment and ruin all. We did not escape this inevitable tendency to go wrong; nevertheless, by dint of a supreme effort on the part of all concerned, just, and no more, managed to save the show from ignominious collapse.

The following hints to entertainment committees may be acceptable. See that the lecturer and operator obtain a short rest about half way through; and arrange for some local man of standing (if you can get him) to propose the vote of thanks. As such shows as the one under consideration are in most cases held in specially hired halls, those responsible should well in advance make sure that the screen can be suitably fixed, and that there is such an adjustment of lens and screen, that while the disc is as large as is desired the lantern may not need to be so placed as to interfere with the comfort of the audience. Another matter demanding foresight is the gas supply, which may otherwise cause much tribulation. Those who are inexperienced cannot do amiss to guard against defeat by consulting Mr. Hepworth's "Book of the Lantern."

The second of our two extra nights took the form of a public dinner in celebration of the establishment of the society. This proved in every possible way a notable success; excepting the financial one, for, as was expected, we found that

there was a balance on the wrong side of the dinner account which necessitated a "whip round" in order that the general funds of the club should not be debilitated. How the above befel is as follows. The dinner committee decided to send every member a ticket, to be returned by a certain date if not required. The result can easily be foretold; no tickets came back, or hardly any—hence the committee booked dinners for all the members plus such friends as had applied for tickets.

Now, although, considering our muster roll, our youth, and the slightly unfavourable atmospheric conditions, we had a splendid attendance, a certain proportion of tickets remained unused and unpaid for. Justice demanded that all who had kept these should pay for them, but expediency said, do not force on resignations by dunning members for what they imagine they don't owe; "Qui n'est que juste est dur"—and sometimes foolish. From this our experience all may learn that tickets should not be sent out unless applied for, nor dinners booked except they have been previously settled for.

In arranging for a dinner such as this there are many details to bear in mind. To begin with the menu, this will depend on the price of the tickets, which in our case was 4s., while the amount charged by the hotel proprietor was 3s. 6d. per head (without dessert); the odd sixpence provided for printing, postage, and fruits. The dining room was furnished with a piano without extra charge, and we arranged for an accompanist, who is a *sine qua non*; flowers for decoration of table were supplied by members. A toast list was prearranged and made as brief as possible. As an illustration of how an apparently unimportant trifle will sometimes cause a difficulty, I remember being told by the Secretary of a society which had recently held a dinner, that a section of the members of pronounced radical views felt rather alarmed at having to participate in the toast of the Queen. However, when the time arrived they joined heartily in the National Anthem, which was, moreover, sung not only with the toast but as a finale of the symposium. This is a good object-lesson in the value of such dinners in welding together the individuals of an institution; besides which, it gives a fresh impetus to the proceedings of a society, and is often the beginning of a now and vigorous departure; as Brillat-Savarin aptly reminds us in his delightfully discursive "Physiologie du Gout," "Open any historian, from Herodotus to the most recent, and you will see that it was always at banquets that great events of any kind . . . have been first thought of, planned, and determined upon."

In our own case we seized upon the opportunity to initiate several matters "of great pith and moment" to the welfare of our institution.

As regards speechifying, we advisedly restricted it to two or three who were to the manner born and possessed the happy knack of putting new faces on old facts; the only exception to this being myself, but inasmuch as it fell to me to enlarge upon the healthy vigour of our year-old "bantling" and to point to the many successes we had scored, of which the fact that in twelve months we had enrolled just eighty members was not the least significant, I need hardly say my rhetorical flights were well enough received. It would need a very pertentious nonentity, a prodigious word-lacker, to fail in kindling some fire with so much raw material as I had ready to burn, and so many listeners burning to applaud.

We, of course, pre-arranged a programme of song and recitation; and here I would observe that even in so small a matter one may at times make a hit which will serve to put an assemblage into a cheerful and sociable humour, which, at starting off, is sometimes lacking. For example, I attended, not long since, some such a dinner as the one of ours I am writing about, and the society, like ours, were engaged in a struggle for existence with a local rival association. The toast of the evening, namely, "Success to the — Association," having been duly honoured by speech and plaudits, the President announced that Mr. Blank would sing a song singularly appropriate to the toast, entitled Ciro Pinsuti's "I Fear no Foe." The allusion caught on like wildfire, and evoked a loud ebullition of feeling.

But to return to our own meal. There remained but one thing left for us, and that was to be photographed, of course. This was the finishing touch of nature which made us kin, and which gave the proper flavour to our evening's gaiety. Certain members learned in this branch of picture-taking planted their cameras in suitable positions, and arranged for the synchronous discharge of a series of flash-lamps charged with gun-cotton and magnesium.

The hotel manager had been previously asked whether he

objected, which he didn't. However, to make quite sure on this point, we diplomatically included him in the group. At the appointed moment came the blinding blaza, accompanied by about as much smoke as would proceed from the explosion of a powder magazine. The following morning a thick coat of the product of combustion covered everything with a white mantle: and now the genial manager opines that better by far, when he next wants his portrait done, to pay a guinea to a local professional than have the assembly room the scene of photographic pyrotechnics.

Before being done with dinners, let me enjoin upon chairmen or stewards to study the convenience of those present by choosing the proper moment to give the signal for "Auld Lang Syne." Brillat Savarin's maxim, "Let nobody leave before eleven o'clock, and everybody be in bed at twelve," is a good one, but no hard and fast rule can be given. These somewhat rambling articles of mine I hope to conclude in my next, which will treat on our local exhibition, and how we made it a palpable hit.



Holiday Resorts and Photographic Haunts.

HOLYHEAD AND HOLY ISLE.

By H. LEACH.

I SHALL in the few following remarks briefly describe the principal features of Holyhead and Holy Isle, in the hope that some chance tourist on his way to the Emerald Isle may be tempted to break his journey and expose a few plates in this wild but picturesque island.

The first thing to attract our attention in the town itself is the church, which is of very ancient date and well worth two or three plates. The arms over the porch are attributed to a certain Maelgwyn Gwynedd, who is said to be the founder, and the quaintly carved animals on the stone work are also due to him. The two side-chapels were restored in 1660. In the chancel are two memorial stones setting forth the chief features of progress in the neighbourhood. The remains of a Roman fort still stand on three sides of the churchyard. A wide-angle lens will be necessary for the foregoing subjects. We will next proceed to the mail-boat pier, at the shore end of which is a triumphal arch built in commemoration of the arrival of the fleet and the landing of George IV. in 1821. It bears an inscription in Welsh and Latin. Owing to difficulties in procuring the stone, it took nearly three years to complete the arch. If we go on to the end of the pier, we may perhaps secure a picture of one of the mail-boats entering the harbour. These are among the very finest boats of their class, and an effort should be made to have a good look inside them. I was very kindly shown right through the *Ireland* by Mr. R. H. Roberts, of the post-office, to whom I am also indebted for further material assistance during my stay. Some capital views may be secured inside the harbour, and yacht races which are held every Saturday during the summer afford excellent subjects for shutter work. The famous breakwater, though scarcely a subject for the artistically inclined photographer, is well worth a plate, as it is one of the finest examples of the conquest of engineering skill over difficulties. It is nearly two miles long, though it does not appear to be a quarter of its actual length. A fine general view of the town and harbour may be obtained from The Head, which is just above the station, and which is surrounded by a commemorative obelisk.

Having done the town, we will now make for the Holyhead mountain, the Welsh name for which is Pen Caer Gybi. The route lies up Thomas Street and through the village of Llain Goch. The latter is very quaint. Ascending the steep sides of the mountain, we pass through a wall of loose stones which surrounds the summit. This is the Caer or fort from which Caer Gybi (Holyhead) receives its name. Descending the mountain on the other side, we come to the South Stack lighthouse, which is worth a plate or two. To reach the lighthouse we have to go down 365 stone steps and then cross a small suspension bridge. Admittance inside is readily granted on week-days. The rocky coast scenery just here is particularly grand. In returning to Holyhead, the path to the right of the mountain should be taken,

and many pretty bits of cottage and landscape scenery will be met with *en route*.

A walk should now be taken right across the island to Porth Ryfydd, and if the tourist is not afraid of a thoroughly good tramp, I should advise him to set off early and walk from Porth Ryfydd southwards right round the island back to Holyhead. This will be about fourteen miles, and though it is a big and rough journey, anyone accomplishing it will be well paid for his trouble. At Porth Ryfydd the first thing that attracts our attention is a pretty little fern-roofed grotto, and a little further on we pass between the shore and the island Dinas. We then enter Porth Dafarch, where a few plates may profitably be exposed. Here the *Missouri*, a very large vessel, was wrecked about four years ago. Besides a large cargo of cotton, she had 300 cattle on board. Continuing our journey, we next come upon the "Smugglers' Cave," which is about 160 ft. long and 30 ft. high. It is very dark inside, and a light will be required, when the walls and rock will be found to be covered with a glistening plant, the botanical name of which is *Asplenium Marinum*. We next come to a picturesque little creek called Porth y Post, in which some curious rocks will be seen. Some of these rise perpendicularly out of the ground and look almost like pillars shaped by hand. A number of small caves are now passed, after which we enter Twyn Capel Bay. But little now remains of the ruins of a chapel that once existed here, and which was founded, so tradition tells us, by St. Fraed. At very low water some stumps of oaks may be seen protruding from the ground. These stumps must be of very ancient date, and probably belonged at one time to the ancient forests of Anglesey. In mid-winter the sun sets opposite the middle of Twyn Capel Bay, and then with the distant snow-capped mountains in the background and the rocky shore with a boiling sea in the foreground, we have a picture that would delight the soul of any artist. About two miles further on there are two natural arches composed of different kinds of stone. The one is called Bwa Du (Black Bow), and the other Bwa Ewyn (White Bow). Close to here also is a very fine and large cave, which has been allotted the somewhat ambitious title of Bangor Cathedral. We next pass through Porth Saint, and then come upon Rhoscolyn Head. Rhoscolyn is a very quaint looking little village and plenty will be found to do in it. The church is worth a plate or two. From here to Porth y Corwle the coast is very much more indented and rugged than usual, and fine opportunities are afforded for picture making. A lightship is stationed just off the coast. The bays of Porth Wen and Traeth Llydan are next passed through, and a mile or two further on we come to the Four-Mile Bridge, which crosses over to Anglesey. The strait is again crossed a short distance in front by the Stanley Embankment, over which runs the mail road and the railway.

Penrhos Woods now skirt the shore for a short distance. It looks strangely like an uninhabited island thus to see the trees coming down almost to the water's edge. On rounding the point, Holyhead comes in sight, and in a few more minutes our long walk will be completed.

In the foregoing I have briefly described the chief points of interest around the coast, but have purposely avoided giving specific directions for the composition of individual pictures, as, in my opinion, the amateur is best left to do this for himself, and to anyone with an artistic eye pictures will crop up at every turn of the head, for here we have Nature in her wild and unfettered condition, and madorned (?) with the majority of the improvements which civilisation has effected; in fact, both with regard to its people and everything else, Holy Island will be voted two centuries behind the times, which just suits our purpose. Welsh is the language almost universally spoken, but the majority are also able to speak English, and no difficulty will be experienced. It will be very interesting to study the manners and customs of the Welsh people, as in no part of Wales are the inhabitants more thoroughly Welsh than here, and some very pleasing studies may be obtained by a hand-camera on a market day. I can think of no better holiday than is to be obtained by taking a tourist ticket to Dublin. By so doing the holder is enabled to break his journey anywhere on the route between Chester and Holyhead, which should be done at Conway and Menai Bridge, and at as many other places as he feels inclined. Then, after doing all the principal photographic work at Holyhead, a short visit may be paid to Dublin.

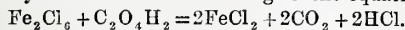
Hotel accommodation in Holyhead is very good, as, besides the L. and N. W. Ry. Co.'s large establishment, there are several other

minor hotels, and a large number of private lodging-houses. As regards the changing of plates, the amateur had better take a dark-room lamp with him, and change his plates in his bed-room at night, as there is only one professional in the town (Mr. Stevens, who has a very small place near the quay), and I don't believe there is a single amateur. Plates cannot be had, so a full supply must be taken.

Quarterly Examinations in Photography.

Question 8.—What is the action of light upon the following substances:—Potassium bichromate, ammonium vanadate and gelatine, ferric chloride and oxalic acid, mercuric chloride and oxalic acid; give any scientific, photographic, or commercial applications of the above.

This is a catch question which has tripped up every competitor, and we are compelled therefore to supply the answer. Potassium bichromate is a perfectly stable salt, and light has no action upon it. The action of light upon a mixture of ammonium vanadate and gelatine is to cause a blueish-green colouration, and the gelatine at the same time becomes insoluble. A mixture of ferric chloride and oxalic acid solutions is decomposed by light into ferrous chloride, carbonic and hydrochloric acid according to the equation—



A similar action takes place with mercuric chloride and oxalic acid.

Potassium bichromate in the presence of organic matter is speedily acted upon by light. Solution of potassium bichromate applied to paper, linen, silk, etc., and dried and exposed to light, gives under a negative a positive print of brown colour. A mixture of this salt with gelatine becomes brown, and the gelatine loses its solubility in warm water, and its property of swelling in cold water: upon this fact are founded the leading photo-mechanical processes. Gum and albumen under the same conditions become insoluble in cold water, sugar dissolves with greater difficulty. Glycerine becomes green and thick, gum dextrin and sugar less hygroscopic; on this last reaction being based the powder process. When mixed with gelatine the bichromate is reduced to chromium chromate $\text{Cr}_2\text{O}_3\text{CrO}_3$, and finally chromic oxide Cr_2O_3 , the gelatine being simultaneously oxidized into formic acid.

So far as we are aware, there is no application of ammonium vanadate and gelatine. A mixture of ferric chloride and oxalic acid was used as a photometer by Marchand and Warnerke, and a mixture of mercuric chloride and oxalic acid was used by Becquerel for the same purpose, but in consequence of the irregularity of results, this has been replaced by Eder's mercuric chloride and ammonium oxalate photometer.—THE EXAMINERS.

Question 9.—What is meant by the "disc of confusion"? State the limit, and explain briefly your idea of focus?

ANSWER.—If two extremely fine dots, touching each other, are caused to form an image by means of a lens possessing spherical aberration, the two images will overlap, *i.e.*, the two dots will be represented by two circles. And since any object may be looked upon as consisting of fine dots, or mathematical points, we have, in the dimensions of the circle constituting the image of a point, a means of measuring the sharpness of the image, yielded by the lens in question. This circle is called the circle or disc of confusion, and under average conditions it has been found that if it does not exceed one-hundredth of an inch, the eye, examining the picture at the distance of normal vision, will see the disc as a point. Accepting, then, this definition, we may say that an object is in sharp focus when the diameter of the image of any point on it does not exceed one one-hundredth part of an inch, ("Construction and Uses of Lenses," C. J. Leaper, F.C.S.; AMATEUR PHOTOGRAPHER, Feb. 6th, 1891).—CREW.

THE PARD.—Plate and lens will be sent. (9) You omit altogether to give us any notion of your ideas of focus.

CARFAX.—(9) The plane of focus is not a "disc of confusion," except to you.

BRUM.—(9) We meant give us your idea of artistic focus, *i.e.*, sharp or fuzzy.

FLARE SPOT.—(8) Ammonium vanadate does not "aid the solubility of the unexposed gelatine," and do ferric chloride and oxalic acid give ferric oxalate?

ME.—(8) Is ferrous oxalate used in the blue process? (9) The "disc of confusion" is not another term for spherical aberration, but the result of it.

THEO.—(8) You miss the point of our question. (9) You omit to define the "disc of confusion" altogether.

E. W. G. M.—(9) See published definition of this.

AUGESCO.—(8) Chromate of potash is not an isomer of bichromate, nor is ammonium vanadate used in photo-mechanical work. (9) You missed the point of focus. We wanted to know what you thought about focussing a picture.

BRENT.—(8) Well done; you are the only competitor up to the catch about the action of light on bichromate of potash. It is a pity the remainder of your question was not up to standard.

ENALOF.—(8) It is a pity the first part of your answer was not equal to the last, which is exceptionally good and correct. (9) We wanted your ideas on artistic focus.

QUESTIONS.

(For Questions 16, 17, and 18—latest day for Answers, Nov. 2—see last week's issue.)

- 19.—Strip the film from the negative you have in your possession (Question 2), and forward the film to the examiners.
- 20.—Is there any difference to be observed in result when photographing a landscape or a copy of the same in pigments? Explain fully your answer.
- 21.—Explain the principle of stereoscopic photography.

Latest Day for Answers, November 9th.

RULES.

1. Answers must be received on the date stated each week in the AMATEUR PHOTOGRAPHER.

2. All answers must be preceded by the question, and should be written on one side of the paper only, and each answer must be on a separate sheet or sheets.

3. A *nom de plume* may be used, and must follow every answer, and be affixed to every specimen of practical work.

4. Answers are not limited in length, but preference will be given to concise answers without unnecessary amplification.

5. Those desirous of competing must apply to have their names entered. As these examinations are intended to encourage the study of the theory and practice of photography, authorities upon photographic matters and contributors to the photographic journals will not be allowed to compete.

NOTE.—No information of any kind will be given to competitors, and nothing but the answers must be included for the examiners. All other communications must be addressed to the Editor.

Marks will be given for all answers, and, when possible, the three best answers will be published. The answers will not be published till the week following receipt of the same, and the examiners will criticise each answer sent in, and when no satisfactory answer is received, will supply one. Three prizes will be awarded at the end of each quarter. (Full syllabus on application.)

All communications to be addressed:—"EXAMINATION DEPARTMENT," AMATEUR PHOTOGRAPHER, 1, CREED LANE, LONDON, E.C.

Reviews.

Manuel Pratique d'Orthochromatisme. By Leon Vidal. Published by Gauthier-Villars et Fils, 55, Quai des Grands-Augustins. Price 2s. 6d.

The author of this work, the editor of *Le Moniteur de la Photographie*, is well known as a practical writer, and he fully sustains his reputation by the present volume. After a brief historical note on the subject, we have a consideration of coloured screens, their use and preparation. A practical review of the principal dyes used in orthochromatic work, their action upon the spectrum follows, and this is rendered very plain and clear by numerous diagrams extracted from the works of the leading experimenters on this subject, and by a coloured representation of the spectrum, which enables the most ignorant of readers to comprehend the statements. The leading methods of orthochromatising plates are then given, and the best method of testing the colour-sensitiveness. For this purpose M. Vidal recommends his "Sensitocolorimètre," which strikes us as being an exceedingly practical and valuable instrument, and then we have a description of the principal spectroscopes recommended for spectro-photography. The final chapter treats of the applications of "orthochromatism," and gives clear, practical directions for the use of screens and colour-sensitive plates. The work is embellished with numerous diagrams and an instructive set of three collotypes as a frontispiece, illustrating the use of the screens; it is characterised throughout by a clearness of style and absence of theory which render it a practical handbook, which we can heartily recommend to any of our readers conversant with the French language.

Photographing from a Balloon.—Everything has a "future" nowadays, and surveying appears to be no exception. Dr. J. Thompson is of opinion that sooner or later surveying will be carried out by an engineer-aeronaut photographing from a balloon. Supposing that a balloon is anchored by three cords to a space above a city to be surveyed, suspended horizontally from the car there would be a camera fitted with an automatic shutter worked from the inside. An operator in the car would watch through the sight tube, and the moment when the balloon was over the selected centre in the city would take his photograph. A series of photographs taken in this way would complete the survey of the city, and might be transferred direct to the printing press. The balloon would, we are warned, require to be shifted for photographing each portion of the city. Such photographs, taken with rectilinear lenses, could, in Dr. Thompson's opinion, be fitted section to section, with perfect accuracy, and a single photograph afterwards taken from them, and combining portions of each, would form a complete and minutely accurate survey of the city, capable, without touch of pen or graver, of being transferred to a metal plate, or a lithographic stone, and printed therefrom.—*Daily News*.

Notes from the Liverpool Centre.

(BY OUR DISTRICT EDITOR.)

PRESUMABLY the Liverpool Camera Club will blossom into an important Society. It is growing apace in numbers, and the members are chiefly young and enthusiastic. In the whole of the Society, the roll now numbering over fifty names, I am told that there is only one gentleman who is not an active worker in photography. The club inaugurated the 1891-92 winter session on Wednesday, the 14th inst., with a smoking social, Dr. F. C. Webb, B.A., President, in the chair. There was a very good attendance of members and their friends, and a very enjoyable musical entertainment was provided, not the least worthy entertainers being the Liverpool Camera Club Orchestra, and Mr. James Smith, the accompanist, who is also "one of ours." Dr. Webb remarked in his opening speech, that during the dark months a series of lectures and demonstrations would be given, and in addition there would be an open competition. Three prizes were to be given—two by himself, and one by the Vice-president, Mr. James Hawkins—for lantern slide and tripod work, the prizes to take the shape of something in the photographic apparatus line instead of medals. The AMATEUR PHOTOGRAPHER Prize Slides are being awaited with interest. During the eight months of its existence the Club has found its rooms in the College Hall, Shaw Street, rather unsuitable, and an early migration to more convenient and better adapted quarters is projected. I understand that Mr. Paul Lange and Mr. E. M. Tunstall will each give the "Cameraists" an evening this season.

At the Liverpool Technical School, Islington, last Friday, Mr. Edwin Banks continued his lectures on photography. The photographic branch of this institution, I think I have previously stated, promises very well indeed. In all probability Mr. Banks will give the next practical demonstration at the Liverpool Association's rooms, on Wednesday, the 28th inst., the night immediately preceding that set apart for the big Prize Slide Exhibition. His subject will be "The Wet Collodion Process," in which he is a largely experienced worker. For the function of the following night at Eberle Hall each member of the Liverpool Association is being provided with a ticket for self and one friend. Additional tickets must be paid for.

Mr. George E. Thompson attracted a large gathering to the Liverpool headquarters on Wednesday, the 14th, for the first practical demonstration this session. Mr. Thompson took for his subject, "The Making and Working Up of Transparencies;" his experiments were closely followed. The formula for Mawson's plates—pyro-ammonia—which Mr. Thompson said gave the best results, came in for notice, as also did Mr. Thompson's own, which, the lecturer said, was more easily worked. I give the latter as an item of interest:

(1.)—Hydro	2 drams.
Meta-bisulphite	15 grs.
Bromide of potass	1 dram.
Water	30 oz.
(2.)—Caustic potass	4 drams.
Sulphite of soda	2½ oz.
Water	30 oz.

Mix equal proportions of each, and as No. 2 is occasionally too strong dilute a little.

Mr. Thompson printed by contact before a gas flame, and concluded a most interesting and instructive demonstration by "spotting out" and "filling in" with a pencil and brush, utilising a retouching desk.

Subsequently the Liverpool return set of slides for Boston, entitled "Illustrated Liverpool," were passed through Archer's new "Ideal" lantern. This latest improvement can be utilised for enlarging and for microscopic purposes as well as for ordinary lantern shows. As it is likely to prove the lantern of the season, I may add further particulars about it.

First let me say that the new lantern has made a most favourable impression among the Liverpool members, and already Messrs. Archer have received orders for several "Ideals" from Liverpool workers alone. The body of the instrument is of polished mahogany, lined with iron and thoroughly ventilated; walnut-panelled doors on each side are fitted with brass shutter sight holes; the front is connected with the slide stage by means of a leather bellows, as on a photographic camera. The bellows front is worked by a rack running the entire length of the lantern—in

addition to the short rack on the object lenses: the whole of the front can be removed clear away for the use of scientific apparatus; the rack front is mounted on a loose wooden board, photographers can thus use their own lenses for enlarging, etc. The object lenses are of very fine quality—double combination achromatics, mounted in cylindrical tubes, which slide in the rack mount so that they can be changed from one focus to another instantly; they are also fitted with double pistons, flashing shutter, and groove for tinted glasses. Finally, it is claimed for the "Ideal" that it is lighter, cheaper, and easier to extend than the usual brass tube lantern. It allows of the use of lenses from the largest to the shortest range, so that pictures can be shown either close to a sheet or across the largest hall.

Among forthcoming lantern lectures by Liverpool experts are Mr. Lange's "Iceland," at the Central Y.M.C.A., Mount Pleasant, on Thursday (this week); and "Normandy," by Mr. E. M. Tunstall, at West Kirby, on Friday.

Mr. Fred Anyon has been exhibiting some very excellent flower studies—isochromatic plates—at Bootle. His work is exceptionally worthy of review.

Up to date the new rooms of the Liverpool Association have not been decided upon, but the Council are shortly to inspect very likely premises in Dale Street—a locality more central, perhaps, and easier of access than Lord Street.

Last Saturday a few members of the Association journeyed to Lathom Hall, the Lancashire seat of the Earl of Lathom, Lord Chamberlain. The morning was fine, and some nice bits were taken, but the afternoon turned out badly for photography. Still, the excursion proved enjoyable.

I am now in a position to give the names of the adjudicators selected to make the awards in the Liverpool Annual Competition which takes place in November. They are Mr. R. Talbot Kelly, Mr. Edward Whalley, and Mr. A. W. Cornish. The selection is a very wise one, and has given all-round satisfaction.

With Mr. Paul Lange in Sheffield on Monday night, I was confronted with the following in a daily paper:—

MONTGOMERY HALL.—PAUL LANGE, the Traveller and Explorer, will deliver his Famous Illustrated Lecture, entitled "Norway and its Wonders." Lime-Light Views. Chair to be taken at 8 p.m., by Sir Henry Stephenson. Tickets: 3s., 2s., 1s., 6d.

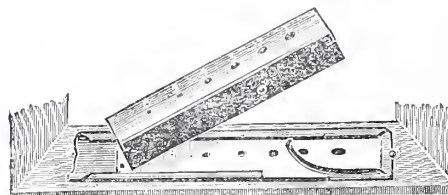
Mr. Lange had a fine reception from a numerous audience, which included some thirty members of the Sheffield Photographic Society. The now well-known Norway pictures were hailed with delight, and the racy descriptions of the lecturer were no less pleasurably received. Sir Henry Stephenson presided. The lantern arrangements were satisfactory, Mr. Staniforth, the operator, having taken due care to ensure success in this important department. He also had a patent—one of his own invention—affixed to the lantern, whereby, through a simple screw arrangement, the limes could be expeditiously regulated. Of this apparatus I will have something to say in detail in my notes next week.



Apparatus.

BARRY'S PRINTING METER.

MR. BARRY, of Duckett Road, Harringay, N., has sent us a specimen of his printing meter, which is a most useful little instrument for



using with papers which are developed and do not print out. For use, the apparatus is opened, as in the illustration, and a piece of ordinary silver paper slid under the grooves at the bottom, and the instrument closed and placed beside the printing frame. As will be observed, there are six apertures of different diameters, and therefore the paper under each would take a different time to reach a standard tint. The number having been once found and recorded there is certainty of future prints being correctly exposed. The light, after passing the visible apertures, is made to go through either ground or plain glass in accordance with the density of the negative.

Thursday Evenings at the Camera Club.

BY ONE OF OUR STAFF.

THE Rev. F. C. Lambert presided at the last meeting of the Club, when there was a large gathering to hear Mr. Andrew Pringle discourse on "Bacteria," and show some of his photo-micrographic slides of that subject.

Mr. Pringle, who is undoubtedly well up in his subject, though he several times distinctly disclaimed the honour of being a bacteriologist, dealt with the matter in a very popular way, and began by pointing out that, so far from all bacteria being producers of disease, the great majority were, so far as was known, harmless, and some of them even were absolutely necessary to health. Decomposition would not go on without them, and the world would become over-crowded with dead bodies. Bacteria were fungi, but all fungi were not bacteria. There were two great methods by which bacteria reproduced their kind, and they were of the greatest importance. Some reproduced themselves by rods or fission, and others by spores; in a few cases they reproduced themselves in both ways. The bacillus of anthrax, for example, reproduced itself inside the body by fission and outside by spores. Spores were much more refractive to every kind of outside influence than were the rods. They were more difficult to stain by any chemical reaction, and more difficult to kill by chemicals or heat. It stood to reason therefore, that the spore of a disease producing bacterium was more dangerous than if the reproduction were by means of fission. The bacillus of tuberculosis was reproduced by spores, and they required very much heat to destroy. The bacillus of Asiatic cholera did not reproduce by spores, and the rods when once dry were dead, and would do no harm. It was, therefore, important to know whether a certain bacterium spored or split. With regard to the splitting method of reproduction he would give them some figures worked out by Dr. Kohn, the German scientist. A rod bacterium was found to split itself in one hour; at the end of twenty-four hours its numbers would have increased to $16\frac{1}{2}$ millions, at the end of two days the number would be 2,815,500,000,000. A rod having a diameter of one-thousandth of a millimetre, and a length of about twice that, would occupy about half a metre at the end of two days; at the end of five days it would fill the ocean. Bacteria were practically ubiquitous, and they were in all parts of the body, except in a healthy circulation. At a short distance below the surface of the earth they could not be found, and at some distance above the face of the earth.

A number of slides were then shown on the screen, including photo-micrographs of the bacillus of scarlet fever, tuberculosis, anthrax, grouse disease, pneumonia, diphtheria, tetanus, typhoid fever, scarlatina, Asiatic cholera, and leprosy. Many were photographs from Mr. Pringle's own preparations.

Mr. Charters White expressed the great admiration he felt for the slides, as a humble follower in Mr. Pringle's footsteps. Only those who had done something in that way could fully appreciate their beauty. Dr. Patterson agreed in that. In reply to Mr. Elder, Mr. Pringle said the photographs gave a correct idea of the appearance of the bacteria under the microscope. All the bacteria were destructible by heat if one could get enough of it. Steam and hot-air sterilising were well known and commonly practised. For bacteria to produce a disease there must be a certain state of body so that it could thrive; over and above that in the case of tuberculosis it was necessary that the bacillus should have rest, otherwise it did not thrive.

Societies' Meetings.

Aberdeen.—On the 13th inst. a meeting of amateur photographers was held in the Café Buildings, Aberdeen, with a view to forming an association. Despite the inclemency of the weather there was a large attendance, and the formation of the Society was heartily gone into. The chair was occupied by Mr. W. P. Robertson, whose remarks formed a fitting introduction to the business of the evening. It having been formally decided to form an association, it was resolved that the Society should be called "The Aberdeenshire Amateur Photographer's Society," and the annual subscription was fixed at 2s. 6d. It was brought under notice that there were many lady amateurs in the city and county, and it was unanimously agreed that they should be cordially invited to join the Society.

Mr. G. Brodie, 2, Powis Terrace, who had taken a leading part in the movement for the establishment of the Society, was appointed secretary and treasurer, and Messrs. James Main, James Clark, W. G. Lindsay, and Alex. Mackilligan were appointed a committee to frame the objects of the Society, and generally to indicate on what lines the Society should be worked—their proposals to be laid before the next meeting of the Society, at which the appointment of a president and vice-president will be made, and honorary office-bearers elected. It was decided that the Society should meet once a month in the meantime, it being understood, however, that the formal business meetings of the Association should be varied by social entertainments, in which the resources of photography would be brought into play, and that in the summer season numerous outings would be arranged. It is also in view to hold various interesting competitions, and in every way possible to stimulate progress in the photographic art.

Blackheath.—At a well-attended meeting held on the 15th inst. it was unanimously decided to form a photographic society under the name of "The Blackheath Camera Club," and a provisional committee was elected. The first general meeting will be held on Thursday evening, the 29th inst., at eight o'clock in Alexandra Hall, Blackheath. Anyone interested in the advancement of photography, and desirous of becoming a member, is invited to attend, or send his or her name to Mr. T. B. Earle, Hon. Sec. pro tem., the Cottage, Handen Road, Lee, S.E., from whom all particulars may be obtained.

Brixton and Clapham.—An ordinary meeting of the Club was held on the 15th inst., when some slides which had kindly been lent by the Editor of the AMATEUR PHOTOGRAPHER were passed through the lantern, and were much admired. Mr. Goldry, one of the members, exhibited some slides from photographs taken with a hand-camera taken last August during a walking tour in Switzerland. Some of the mountain and gorge scenes were magnificent, those of the Matterhorn deserving special mention, though, indeed, the whole series showed great care and skill. The next meeting will be held on Thursday, November 5th.

Croydon Micro.—On Friday, Oct. 16th (the President in the chair), the first lantern night of the season, a good selection of over 200 slides, the work of members, were passed through the lantern. There was a crowded attendance, and much appreciation was shown by those present.

Douglas (Isle of Man).—At the first meeting of the session, on the 13th inst., the President, Mr. J. M. Nicholson, in the chair, the balance-sheet was passed, officers and committee elected, and a programme arranged for the present session. The Society also decided upon purchasing an optical lantern. Hon. Sec., Mr. Thomas McIsaac.

Enfield.—The first meeting of the winter session was held on the 14th inst., about thirty persons (members and friends) being present. The new binocular lantern recently purchased for the Club was used for the first time, and several hundred slides brought by the members were passed through. At the next meeting on the 28th inst., Mr. W. H. Trewartha James will read a paper on "Hand-Cameras."

Fairfield (Liverpool).—An ordinary meeting was held on the 12th inst. Mr. H. J. Mallabar gave an interesting lecture on "Alpha Paper and Plates," followed by a practical demonstration, in which he showed the variety of tones obtainable. During the evening a number of prints were passed round, and a few specimens of the Diazotype process shown. The next meeting is on the 10th of November.

Guildford.—The usual monthly meeting was held on the 13th inst., the President, Mr. G. J. Jacobs, in the chair, when Mr. Howson gave a demonstration of gelatino-chloride printing.

Holborn.—At the meeting on the 15th inst., Mr. N. Baker in the chair, Mr. Fred Brocas gave an interesting demonstration on "Platinotype (hot-bath process)," giving some valuable hints in the course of his remarks. Some members attended the outing to the Albert Memorial on Saturday last. Fine weather prevailed, and a number of plates were exposed on various parts of the Memorial.

Lewisham.—At the meeting on the 16th inst., Mr. A. H. Miles, Vice-President, in the chair, Mr. Lanchester read a very interesting paper, entitled "What Not to Do," describing the various mishaps to the average amateur, which, in most cases, he put down to too much hurry and zeal on the tyro's part, such as forgetting to open dark-slide when making exposure, taking two on one plate, putting plates in slide wrong side to lens, want of patience in toning, and among other causes of failure being exposure of dark slide to light, using too much light in dark-room, taking portraits in which the background is in sharp focus, especially if it is ordinary wall paper. On November 6th Mr. Andrew Pringle will give a demonstration, entitled the "Development of Negatives on Gelatino-bromide Emulsion."

Liverpool C. C.—The first meeting of the winter session of the camera club, on the 14th inst., was devoted to a social entertainment. Dr. F. C. Webb, B.A., the President, occupied the chair, and in his opening remarks gave a very cordial welcome on behalf of the club

to the many visitors, after which Mr. George Mundell, and his violin party, Messrs. Mathieson, Finger, Brain, and McMillan, played the opening overture, "Tancredi," and later on in the evening a selection of "Irish Airs." Mr. Leslie recited "The Mother and her Child were there," with piano accompaniment, and Mr. Henry Hallard obliged with one of his humorous Lancashire dialect sketches. These, with the vocalists, Messrs. F. D. Williams, R. Rodgers, M. J. Warriner, W. Toulonse, and P. Fairhurst, contributed greatly to the success of the evening by the excellent rendering of their various songs and sketches. Mr. Mundell also gave a violin solo, "Les Cloches de Corneville," which was greatly appreciated. The accompaniments were in the able hands of Messrs. James Smith (one of the club members) and Leslie Harris. The various items of the programme were most enthusiastically received. During the interval for coffee, etc., Mr. J. Smith gave a demonstration on "Group Taking" by the aid of the magnesium light. A vote of thanks of the performers and vocalists brought a most enjoyable evening to a pleasing close.

Louth and District.—The first meeting of the winter session was held on the 12th inst. There was a good attendance of ladies and gentlemen interested in the special work of the society. In the absence of the President (Lieut.-Col. Ranshaw), the Rev. W. B. Boyne took the chair. The Hon. Secretary announced the election of three new members, and read the programme for the winter. The paper by Mr. S. Francis Clarke on "Hints to Beginners," led to a very interesting and lengthy discussion, in which most of the members took an active part. There was on view a very excellent selection of photographs kindly lent by the Editor of the AMATEUR PHOTOGRAPHER. The selection embraced fine examples of all the most popular branches of the art.

Midland.—At the meeting on the 16th inst., Dr. Hall Edwards in the chair, the rules drafted out by the Provisional Committee were adopted, and upon reading the names of gentlemen who had expressed their desire to join, together with three or four handed in at the meeting, the Chairman congratulated the club upon starting with a membership of fifty, a result that quite surpassed the expectations of the promoters, and one that was not often equalled by new societies. The election of officers resulted as follows:—President, Hall-Edwards, L.R.C.P.; Vice-President, Rev. J. Henry, F.R.G.S.; Hon. Secretary, Walter D. Welford; Hon. Treasurer, S. G. Mason; Committee, Messrs. H. R. Leech, M.R.C.S., W. W. J. Nicol, D.Sc., Edw. Morton, Dr. Ratcliffe, and Rowland White. The Chairman thanked the members for the honour conferred by electing him their first President, though he would rather have seen Dr. Leech fill that position, as he was undoubtedly the originator and promoter of the movement. The Chairman concluded by saying that he should do his utmost for the club and fully expected to see the membership increased to 100 before the end of the year. The Hon. Sec., in thanking the members for electing him to the post, said that he intended to make the name of the club, not only famous in the town but also throughout the country. He did not believe in the exclusive, egotistical manner in which some clubs were carried on, and he should like a Birmingham club to be renowned outside of the town. The club-rooms were hung with pictures—"Carolling" and "Zobster Boat," by H. P. Robinson; "When the Day is far spent," by Rev. F. C. Lambert; some excellent micro-photographic frames, by the President; landscapes by the Hon. Treasurer; and hand-camera pictures by the Hon. Sec. There was also a large display of lantern-slides. The members generally expressed themselves well pleased with the rooms, and the various arrangements made by the President and Hon. Sec. as members of the Provisional Committee, and it was unanimously resolved to adopt all the arrangements entered into on behalf of the club.

Newport, Mon.—On the 12th inst. the second winter session was opened with a social evening and smoking concert. At the business meeting preceding the above, several additions were made to both the honorary and active members' lists, the combined forces now numbering over seventy. The excellent accommodation possessed by this club enabled them to reserve one large room for the smoking concert and also to make all preliminary arrangements in the large Albert Hall, for taking the entire company in a flash-light group. Messrs. R. Richards, C. Clements, A. C. Grove, and F. Parsons contributed songs, Mr. C. E. Parsons recited, Messrs. C. A. Miles and Mitchell were at the piano as accompanist and soloist, and C. Morris Manoy gave some excellently played solos on the violin. Added to the foregoing items conducive to a pleasant evening, were a loan collection of photographs which were thoroughly discussed and enjoyed. Two sets of Slingsby's patent flashlight apparatus were used, giving a light powerful enough for a group of seventy or eighty persons. Four exposures were given on four plates of each of the sizes 12 by 10, whole, and half plate, negatives of a very satisfactory kind being obtained with each. It is worth noting that the whole-plate negatives on Paget ordinary plates, lens and stop being identical, gave with a powerful eikonogen developer, in the hands of the Hon. Sec., a density equal to the 12 by 10 and half-plate negatives taken upon extra-rapid plates and developed with pyro and hydroquinone

respectively. Messrs. L. Lockyear and G. R. Thompson ably worked the flashlight apparatus. Several new members' names are the best testimony to the success of this pleasant and interesting evening.

North London.—At the meeting on the 6th inst., Mr. J. Traill Taylor (President) in the chair, Mr. Coventon exhibited some of the late Mr. H. Cooper's prints from 1869. These were greatly admired by the members, and showed very little signs of fading. Mr. Mackie then gave a most exhaustive and interesting lecture on "Silver Printing on Albumenised Paper." The history of the process, the kinds of paper used, and its preparation, the albumenising and sensitising of the paper, were fully gone into. The chemical changes which take place when the paper is sensitised were graphically described on the black board. Mr. Mackie gave the following formulae for salting and sensitising plain paper: 20 grains of No. 1 Nelson's gelatine, 60 grains of chloride of ammonium, 20 oz. of water brushed over the paper. Sensitising bath—60 grains of nit. of silver, $\frac{1}{2}$ oz. of water, liq. ammonia added drop by drop until a precipitate is formed, and then re-dissolved. Make this up into two parts, to one part add a few drops of nitric acid, and then mix. The after processes are the same as for albumenised paper. Mr. Mackie stated that he believed it was hardly known to what a degree the character of the negative affected the tones of the finished print. In making up the toning bath, it was necessary to add to the bath something which would absorb chlorine, so that the gold might be deposited upon the print or in it by the process of substitution; most of the weak alkaline salts would effect this. It was necessary to bring the gold salt into an unstable equilibrium as possible, so that the slightest cause would make it deposit. If it was wished to use the bath directly after preparation, heat should be used to bring the bath to proper condition in a short time. In mixing add 2 grains of gold to 2 oz. of hot water. A change would take place in the colour of the water, then add the acetate, phosphate, or borax; keep it at about 70 deg., and dilute with the required quantity of water. Carbonate of soda must be added after diluting. Put the darkest print in the bath first, as the toning of the first was sure to be unsatisfactory. The gold, if deposited slowly, would give red tones; if quickly, blue tones. It was impossible to secure uniformity of tone in a number of prints unless the same process was carried out with all. They should be washed for the same time and in the same amount of water. If blue tones were required, do not wash too much; if brown tones, wash more. The fixing of the prints was more open to fault than any other process as to permanency. A sufficiently strong bath should be used, and used for long enough. The prints should be fixed in one bath and finished off in a fresh bath. If the prints were sufficiently fixed so that nothing but hyposulphite of sodium was left in them then a moderate amount of washing only was necessary. Mr. Mackie then made allusion to the old sulphur toning-bath, in which no gold was used. The President stated that kept and fermented albumen doubtless produced a glossy surface, but a bad smell was acquired. Mr. Hart, however, in the course of his experiments, found that it was best to use only fresh albumen. The prints were more permanent, equally brilliant, and there was no smell, although the smell could be got rid of by treating the paper with a fine charcoal powder, but this was a patent process. To keep the paper it should be washed fairly after sensitising. It was then always ready, though insensitive. To use it, it must be fumed. The pads of the printing frame must be saturated with ammonia. This paper gave a much richer tone after fixing, and printed to deep purple-black, toning readily. On floating paper, of course, no two sheets of paper were treated exactly alike, but the addition of nitrate of soda produced brilliant results with a weak silver bath. The following was a good plan for making up a carbonate toning-bath:—Add the gold to full quantity of water, stir well; put small strip of litmus paper on the water; let it float till it becomes red; add by slow degrees a solution of bicarbonate of soda until the litmus paper turned blue; warm it afterwards as it weakened, and the gold could be used up to the last atom. The heat must be kept up to the same point, or even increased, as the bath weakened. Toning could be effected with this bath after fixing; an over-printed proof could be reduced in the hypo, then thoroughly washed before toning. A good test for a thoroughly fixed print was to add boiling water to it, when, if under-fixed, it would immediately assume the horribly sickly dirty yellow tint of an unfixed print. Four ounces of hypo to the pint was a good strength for the fixing-bath. The bath should be made alkaline, and a weak fixing-bath was a mistake. Mr. Mackie gave the following good lime bath: 1 gr. of gold to each ounce of lime water; place the bottle in water, and bring up to boiling point; 8 oz. of water, 4 grs. of carbonate of soda to each ounce of solution. The prints must not be washed much before toning. The Secretary asked for a good plan for testing the silver strength of the combined silver and nitrate of soda bath. The President said this could only be done by the volumetric process, of which he would give a demonstration another evening.

Oxford.—The annual meeting was held on the 6th inst. in the new rooms of the society. In the absence of the President the chair was taken by Mr. Councillor Salter (Vice-President). The Secretary read the minutes, and when they had been approved, the annual report of the committee. The reference to the private exhibitions excepted, the report was a satisfactory one in every way, as was also the Treasurer's, which showed a balance of £2 or £3 in favour of the society. The (second) balance-sheet of the furnishing fund was also read; from this it appeared that members had made donations—in addition to articles—to the amount of nearly £20, and that £6 6s. only is required to complete the furnishing. It was unanimously resolved that the subscription should be 7s. 6d., which, it was anticipated, would keep in most of its present members, and a larger addition of new ones. This subscription was very agreeable to the members, who may be congratulated on having the use of two rooms, books, etc., and other privileges, at a low cost. Five names were read for membership, and a hope was expressed that the society would be busy at the next few meetings balloting for members. Various schemes are being drawn up for the members to work. Every member could help in one of them at least, and not leave the working of them to half a dozen members. A good programme has been arranged for the winter. Owing to the length of the meeting, the revision of the rules was not gone into, but relegated to a Committee meeting, which will propose a set of rules for adoption at a special meeting held on Tuesday last. The Rev. F. J. Smith, M.A., Trinity College, has resigned, as he is leaving Oxford. The Committee recorded the successes of its members, C. C. Cole, A. F. Stanley Kent, and A. Robinson, at the various exhibitions.

Peterboro.—The monthly meeting was held on the 12th inst. A paper was read by Mr. A. C. Taylor on "Gelatio-chloride Papers," accompanied by a demonstration on toning and stripping. Prints from most of the papers on the market were exhibited.

Preston.—The October monthly meeting was held on the 15th inst. Mr. R. M. Worden read a paper on "Development." He premised his remarks by alluding to the proper and efficient lighting of the dark-room, which he considered a first-aid to development. He then compared the advantages and disadvantages of different developers, and claimed the supremacy of pyro (with a preservative) and ammonia as a negative developer. He further stated that he had used this developer after having been made up eighteen months, the preservative being metabisulphite of potash. A quantity of negatives were passed round, which were pronounced very satisfactory in every respect. After the discussion, a few plates were developed which had been exposed at the Club outing the previous Saturday. At the next meeting the subject will be "Printing and Toning."

Putney.—The winter session was opened on the 15th inst. by a lecture on "Illustrated Journalism," delivered by Mr. T. C. Hepworth, F.C.S., before a large audience. The Rev. L. Macdonald presided, and had the pleasure, shortly after 8 o'clock, of introducing the lecturer to the meeting, touching in the course of his remarks on the formation of the Society last December and its steady growth and progress. The lecturer, who was received with applause, explained the production of a daily newspaper, and the important part played by photography in the reproduction of illustrations. The pictures thrown upon the screen, which were the work of the lecturer, and to which full justice was done by the fine triple lantern lent by Mr. Steward, were heartily applauded. He traced the progress of journalism down to the present day, showing sketches received from war correspondents during the late siege of Paris and Soudan War, etc., etc. Mr. Steward's representative exhibited some fine slides. The "Club" single lantern and other apparatus was on view. Next meeting, Saturday, October 31st, "Bromide Demonstration," Fry Manufacturing Co.

Richmond.—At the meeting on the 9th inst., Mr. Ardaseer in the chair, a very interesting discussion took place on the subject of "Blisters on Silver Prints, etc." Several members gave their experiences. Some had enjoyed a happy immunity from the inflammation, but most had suffered from it in the case of either albumenised or bromide papers—a few in the case of both, while one unlucky individual had found blisters form in the coating of his plates. Various remedies were suggested, but no one had had the courage to essay the prescription to be found in the "American Journal of Photography Annual" for 1890, viz., to fix the prints in a nearly boiling hypo bath, and thence transfer to a solution of salt, strong enough to float a potato. The Chairman gave the different theories by which blisters in prints are commonly accounted for, viz.: (1) the change of temperature from one bath to another, the remedy for which is obvious; (2) the difference in density of the successive baths, a remedy for which is to thoroughly drain the prints at each transfer; (3) the generation of carbonic acid gas by some unexpained means in the hypo bath, which may be prevented by the thorough washing of the prints between toning or development and fixing, and the addition of ammonia to the fixing bath; and (4) the use of too strong a hypo bath, a solution of 1 in 8 being quite

strong enough. The annual general meeting took place on the 16th inst., Mr. F. P. Cembrano, jun. in the chair. The usual business was transacted, and the following officers elected for the ensuing year. President: F. P. Cembrano, jun. Committee: R. L. Kidd, C. H. Davis, E. G. Richardson, Arthur C. Hunter, C. E. Hodgkin. Hon. Librarian: G. Ardaseer. Hon. Secretary: P. Ennis, 28, Halford Road, Richmond, Surrey. The meeting was then converted into a special general meeting to consider various alterations in the rules, but was adjourned until October 30th.

Sheffield.—A special meeting of the photographic society was held on the 16th inst., when Mr. H. M. Smith gave a demonstration and exhibition of lantern slides made from Kodak negatives. There was a large gathering of ladies and friends, who thoroughly appreciated the entertainment.

Tyneside.—A general meeting was held in the 14th inst., Mr. Rothwell in the chair. A paper by Mr. E. Dunmore, of London, was given on "The Spectacle Lens as an Aid in Photography." It was clearly demonstrated to the gathering how two periscope spectacle lenses, placed close to each other, with their concave sides turned inwards, and a small stop (one-eighteenth of an inch) immediately in front of the lenses could be made to cover a whole-plate easily. A number of whole-plate pictures were handed round for inspection, and were greatly admired for their beauty and rectilinearity. One of an interior of a London church, with tall pillars, did not show the least trace of distortion, and was perfectly sharp to the edges. It was shown that the centres of the lenses were the only parts that were required in a photographic lens. He also showed that the best place for the stop was theoretically between the lenses, but he got the best results with the stop in front. The stop should be counter-sunk on both sides. The other prints were equally admired and as interesting. The same evening numerous slides were put through the lantern, including slides from the members' negatives of the last country excursion.

West Surrey.—The usual fortnightly meeting took place on the 14th inst., Mr. G. H. Seward in the chair. After the usual business had been transacted, Mr. James gave his demonstration on "Carbon Printing in Pigments." Mr. James explained the formation of his novel actinometer, at the same time pointing out the necessity of using an instrument of this kind in the carbon process. Mr. James embellished his interesting remarks by developing several prints before his audience, showing the difference between the single and double transfer process. He also transferred prints to opal glass, silk, etc., etc. A discussion followed, in which many of those present joined. The next meeting will be held at St. Mark's Schools, Battersea Rise, on Wednesday, the 28th inst., when Mr. E. Swinger will demonstrate "The Development of the Latent Image."

Books Received.—"Photography Applied to the Microscope." By F. W. Mills. Thife and Son. 1s. 6d. A useful work for those interested in the subject.—"Photographic Pastimes." Hiff; and Son. 1s. A book which contains much that is silly and useless, a few items which are amusing, and still fewer which are instructive. The whole of the matter is a scissors and paste compilation from foreign photographic journals, by Hermann Schnauss, which has been, very unnecessarily, we think, translated from the German.—"Magic Lanterns, How Made and How Used." By A. A. Wood, F.C.S. Wood, 74, Chapside, E.C. 1s. A very useful guide, giving full instructions what to buy, where to buy, and how to use the "magic" lantern; should be in the hands of all who intend going in for lantern shows this season.

A Beginner's Outfit.—The following will interest many of our readers, and possibly encourage the photographic trade to advertise even more freely with us than at present:—"Below I give you list of photographic appliances, etc., that I have purchased by your recommendation and through reading your paper, and am fully satisfied with the same, and trust shortly to send some of my work for your inspection. Of course, I have had a try with camera. List referred to: Whole-plate camera, reversing, etc., open to 19 in.; whole-plate R.R. lens, 11 in. focus; three-fold stand; focussing cloth; Thornton-Pickard time and instantaneous shutter; 2 draining racks, quarter to whole plate; 4 developing dishes, quarter to whole plate; ruby lamp; squeegee; scales and weights; pestle and mortar; about 30 glass-stoppered bottles; about three times quantity of chemicals you mentioned (in stock); solutions for developing and toning; 6 fifty-groove negative boxes, quarter to whole plate; 2 measuring glasses; 1 funnel; 18 dozen Paget's plates; 7 dozen Eastman's bromide papers; 7 dozen mounts; half quire Scottish sensitised paper; 3 air-tight tin cases for the paper; 3 each printing frames, quarter, half, whole plate; 1 packet of 50 quarter-plate ferro-prussiate paper, etc., etc. Up to the present I have spent quite £30, exclusive of dark-room and fittings, and think when I have got the enlarging lantern I shall have a very fair set out for the present. Eventually I shall go in for a W.A. lens."

To Correspondents.

All communications for these columns are to be addressed to **The Editor, "Amateur Photographer," 1, Creed Lane, Ludgate Hill, London, E.C.**

RULES.

1. Write clearly and distinctly on one side of the paper only.
2. Write each Query or Answer on a separate sheet of paper.
3. Write the name and address legibly on the back of each communication, and sign all Queries and Answers with name or *nom de plume*.
4. All matters for these columns MUST be received by TUESDAY MORNING'S POST.
5. The Editor does not undertake to answer questions by post.
6. In answering Queries, correspondents are requested to mention, in every instance, the number and full title of the query referred to.

QUERIES.

5143. **Enlarging.**—Does any firm supply stands with moveable easels to place near window for enlarging?—KNOX.

5144. **India-rubber Cuffs.**—Where can I get india-rubber cuffs to use when developing?—J. T. H.

5145. **Obenetter Paper.**—Can any brother amateur give me any information as to the causes of my failure with Obenetter's emulsion paper? I have adhered strictly to the formula supplied with the paper as regards toning, fixing, and alum baths, but I find that by the time the prints have passed through all these baths, they are nearly bleached, in spite of being well over-printed to begin with. The fixing bath lightens the print considerably, but, to my mind, it is the alum bath, recommended by the maker after eliminating the hypo, that does the mischief. It not only seems to bleach the prints, but to give them a yellow tinge. I use a 5 per cent. bath of chrome alum, which is the strength recommended. Any hints as to causes of above will greatly oblige.—NORTH STAFFORD.

5146. **Reflex Camera.**—Would Loman's Reflex hand-camera, fitted with Dallmeyer's 5 by 4 rapid rectilinear and Eastman's roll-holder, be a very good hand-camera for a lady? Any advice as to improvements would be gratefully received.—KODAK.

5147. **Camera.**—Is McKellen's considered a first-class one? Is it preferable to Lancaster's; if yes, why?—FULLSTON.

5148. **Subject.**—What subject is artistically considered best from a photographic standpoint?—FULLSTON.

5149. **Patent.**—Can any one give me preliminary instructions how to proceed to patent an invention in connection with a camera?—FULLSTON.

5150. **Ideal Hand-Camera.**—The Ideal hand-camera is stated to be focussed for all objects distant 12 ft. and over. Is the focus really sharp for all objects, so as to need no adjustment, and does it work well in practice?—ANDREW.

5151. **Roller-Blind Shutter, Effect of Heat and Damp.**—What is the effect of a (1) hot, (2) hot and damp climate on a shutter of the roller-blind type? A full answer will oblige.—ANDREW.

5152. **Toning.**—I have seen so many asking for purple-toned prints, as a beginner I should be glad if any one would help me to tone them that colour. In the first place, I am totally ignorant what a purple tone is like. I have toned a few prints, but they are a brownish colour. Will any one give me the changes in colour which the print undergoes from the red when put into the toning bath to when they reach the purple tone, and please state also the paper and bath used? I have tried the borax, bicarbonate, tungstate, phosphoric acid, and acetate, but have failed in each case. I should also like to know the time taken, and if any one would send me a few prints, I should be very grateful. Address with Editor.—PURPLE JOE.

5153. **Nitrate of Silver.**—Will any one kindly inform how to make to strengthen a weak bath; after silver is dissolved in nitric acid and filtered, how then proceed?—CROYDON.

5154. **Oxygen Gas Bag.**—What is the best mode to discover a leakage at the defective spot?—CROYDON.

5155. **Dry Plates.**—Having been exposed to light, how could they be treated to render fit for use?—CROYDON.

5156. **Burnishing Prints.**—Will any of your many readers kindly give me a formula for putting on photographs before burnishing, as they strip off unless there is something on them? Please give formula for same, or where I can get it and the name.—FORGET-ME-NOT.

5157. **"A Guinea Itakeit."**—I shall be much obliged to any one if they will let me know particulars about the hand-camera called "A Guinea Itakeit."

Will it take instantaneous portraits well, and where is it to be got?—BLISTER.

5158. **Athens, etc., Photographs of.**—Could any reader of the AMATEUR PHOTOGRAPHER kindly tell me whether I could buy in London photographs of Athens, Argos, Mycenae, Olympia, Troy, and other historically important places in Greece and Asia Minor, especially of the excavations, and also some illustrating costumes and costumes of the people of those countries?—SWISS.

5159. **Celluloid Films, Development of.**—Would some workers with these kindly give me, from their experience, information as to the best way of preventing them curling and keeping them beneath the surface during development and fixing?—CLERICUS.

5160. **"Bruno" Statue, Rome.**—Where can I get a photograph of the "Bruno" statue, Rome? I have applied to Frith's, Reigate, but cannot get it.—NEMO.

QUERIES UNANSWERED.

Oct. 2.—Nos. 5088, 5090, 5091, 5099.

" 9.—Nos. 5110, 5113, 5117.

" 16.—Nos. 5122, 5123, 5124, 5131, 5332, 5139

ANSWERS.

5094. **Photographing the Interior of Churches.**—Judging from the tone of "Italiano's" query, he appears to be a novice, and as interior works, perhaps, the most difficult branch of photography, the failures experienced are not surprising. However, he has no need to invest in a portrait camera (whatever that may be), as his ordinary apparatus, provided the lens be of the rectilinear type, will do all that is necessary. The exposure is very difficult to gauge, as in some cases 20 min. with $f/32$ will be ample, whilst if the church is badly lighted and has a lot of stained-glass windows three hours with the same stop will not be too much—in fact, it will be difficult to over-expose. It is a good rule to use a small stop, say $f/32$, and give a long exposure in order to secure the detail and reduce the contrast in the resulting negative. Does "Italiano" use a one-solution developer? If so, he will never get good results when doing interior work. He should use 10 per cent. solution of ammonia and bromide of ammonia or potash, in conjunction with dry pyro. In August last I exposed a Thomas' E. R. thickly coated plate on the chance of St. Nicholas' Cathedral, Newcastle-on-Tyne, at 2 p.m., using $f/32$. The exposure given was $2\frac{1}{2}$ hours, and the negative turned out a good one, though perhaps a trifle under-exposed. The normal developer for Thomas' plates is ammonia 2-40 minims, bromide 1-05 gr. and pyro 1-08 gr. per ounce. The developer used for the above-named plate was pyro 1 gr., ammonia bromide 3 gr., ammonia 1 minim, to 3 oz. water. This was applied for 2 min., and then another minim of ammonia added with gradual further additions as required, and nearly an extra grain of pyro to complete density. As the high lights came up, the developer was poured off the plate, which was washed under the tap, and the lights painted with a weak solution of bromide to keep back the density. This was repeated several times during the course of development which, from its tentative character, was somewhat protracted. Of course, the clearing bath was necessary to get rid of the brown stain. There was very little halation observable, owing to the thickness of the film, but if a thinly coated plate had been used, some kind of backing would have been requisite. If "Italiano" will send me a print through the Editor, I will try to assist him to the best of my ability.—ISO.

5094. **Photographing Church Interiors.**—Do you give enough exposure? I gave twenty minutes in Roslin Chapel, with $f/11$ stop. Church windows give very adialectic light. There is no special virtue in a portrait camera. The three important factors are the light, aperture of diaphragm, and, of course, a good lens.—FRED DAVIS.

5101. **Bromide Paper.**—In answer to "Manfield" bromide paper is sensitized one side only; the sensitized side always curls inwards. Results can be got by exposing on the unsensitized side, but the image is reversed, as regards right and left. I find bromide paper (Hford) keeps well for months. Twenty seconds at 10 or 11 in. from a gas burner is plenty with Hford slow, but I prefer to give 40 or 45, 6 in. from a candle, with negative of ordinary density. Does Manfield mean he exposed bromide paper in printing frame to daylight? Of course it would be hopelessly fogged if exposure is more than a very few seconds. He should read directions on each packet about opening.—PURN.

5101. **Bromide Paper.**—(1) Of course there is a difference between one side and the other, one side being coated with the sensitive emulsion. All bromide papers curl inward slightly, the emulsion being on the inside. (2) Yes. (3) You do not say anything about the density of your negative or the distance from the light, or even the make of the paper. The exposure varies very much, but with a negative of correct density at 1 ft. from a gas-burner 10 to 15 sec. would be about correct. Your paper was perhaps much under-exposed, or else you put the paper in wrong side up. I should think that this was the most likely cause of the two. You can always tell which is the sensitive side by the curl; sometimes it is rather hard to tell with the rough heavy papers, such as the Eastman "C" brand.—CARBONATE.

5107. **Lantern Plates.**—Several workers reply to this, but none seem to give a reply in accordance with

the querist's wishes. The cheapest lantern plates I know are made and sold by H. Pickering, High Cross Street, Leicester. His price is 10d. per dozen.—W.T.T.

5121. **Platinotype.**—The best of the simple printing-out processes seems to be Hardestie's, though I have never seen any results to equal the Platinotype Company's development process. I do not find the hot-bath paper difficult to work, when once a little experience has been gained in how long to print. Hardestie's paper requires to be put into three baths of hydrochloric acid and water 1-40 before washing with water only. The price is, quarter-plate 1s. per doz., and so on. I know of no paper for which the treatment you mention is recommended.—PEN.

5121. **Platinotype.**—Use Pizzighelli paper. Print in direct sunlight, as this has a great effect on the resulting print. Be sure you get a good sample of paper, as, after being in stock some time, it becomes black and unfit for use. With suitable negatives, good paper, and sun printing, this process is bad to beat, price, half-plate, 2s. per dozen pieces. The method you have been following seems to be to print and then fix with out developing, which would leave a blank sheet of paper.—ISO.

5125. **Lens.**—I should recommend No. 3 as decidedly suitable for "Amateur's" all-round work. You seldom require so large an aperture as $f/5.6$, and you would also have the satisfaction of knowing you had a good article. In the 5 by 4 size this lens has a full aperture of $f/5$, other sizes $f/8$.—PEN.

5125. **Lens.**—Out of all the lenses "Woolen Brain" mentions, I do not think he could possibly get a better lens in every way than Wray's rapid rectilinear lens. It suits amateurs very well for most kinds of work.—W. H. ELLIS.

5125. **Lens.**—If "W. B." wishes to include portraiture, I would advise him to get the Optimus Eury-scope; but apart from that he will not get anything better than the Optimus rapid rectilinear for general use.—ST. TUDOR.

5126. **Sensitized Paper.**—Scholzig's albumenised is excellent. For matt-surface you could get any of the gelatino-chloride papers, such as Obenetter's, Celero-type, etc. There is some matt-surface plain (not gelatino) paper sold by most dealers, but I do not know the maker's name.—PEN.

5126. **Sensitized Paper.**—Scholzig's brilliant and matt-surface papers are both very good. With the matt-surface paper and a borax bath, splendid purple tones can be got in a short time. Or when printed under green glass and toned with a bath containing nitrate of uranium and borax (all the formulae are enclosed with the paper) absolutely black tones like platinotype can be got. The brilliant paper wants rather more gold than most papers.—CARLONATE.

5126. **Sensitized Paper.**—The paper issued by the Blackfriars Photographic and Sensitising Co., 1, Surrey Row, Blackfriars Road, is unsurpassed for general excellence. It keeps well, and tones easily by any of the published formula.—ST. TUDOR.

5126. **Sensitized Paper.**—Reynolds and Brunson, Leeds; Hurman and Co., St. Nicholas Buildings, Newcastle-on-Tyne, and scores of firms who advertise in the photographic papers.—ISO.

5127. **Sensitized Paper.**—What you will require will be a dish, preferably of enamelled earthenware, some good albumenised paper, distilled water, good nitrate of silver, cleanliness, and care. Make a bath about 60 gr. to the ounce, to this add 10 drops of a saturated solution of citric acid, drop by drop until the slight precipitate of citrate of silver found is redissolved. Float the albumenised paper for, say, four minutes, then place between sheets of clean blotting paper, to remove superfluous solution. As soon as the surface is dry, float the back of the sheets on either of the following solutions, previously filtered:—

No. 1.		
Picked gum arabic	.. .. .	3 oz.
Rochelle salt	.. .. .	5 "
Water	.. .. .	80 "
No. 2.		
Picked gum arabic	.. .. .	3 oz.
Tartaric acid	.. .. .	5 "
Water	.. .. .	80 "

If the paper be now thoroughly dried, and put under pressure so that neither daylight nor atmospheric influences can attack it, the whiteness may be preserved for a long time. No. 1 of the above formula will keep the paper good for two or three weeks. No. 2 for several months.—BLISTER.

5127. **Sensitized Paper.**—"Punch's" advice to those about to marry—"Don't." But see Wall's "Dictionary," how to make it.—ARTURO.

5127. **Sensitized Paper.**—You should buy some ready-albumenised paper from the Alhion Co. or other good makers, and sensitise (by gaslight) by floating it on a bath of 60 gr. nitrate of silver to the oz. distilled water for two to four minutes—the longer time in winter. Hang up to dry. If you want the paper to keep longer than one day or so, float on a bath of citric acid 30 gr. to water 1 oz. The best results will, however, be obtained by printing the paper as soon as dry after sensitising. For further directions as to keeping silver bath, etc., see any handbook, such as Wall's "Dictionary of Photography," price 2s. 6d.—PEN.

5128. **Coating Dish.**—The following is a water-tight preparation for wooden dishes:—

Common brown resin	.. .. .	$\frac{1}{2}$ lb.
Beeswax	.. .. .	2 oz.

Melt together in tin pan (preserved meat tin will do);

when quite fluid, run solution rapidly all over where required. Wood must be perfectly dry and warm.—BLISTER.

5128. Coating Dish.—You can put nothing on which will not wear off in time, but the following might keep on, perhaps, a short time longer than anything, but it will require doing again in time, viz.:
Gum sandarac ½ oz.
Orange shellac 1 pint.
Methylated spirit 1 pint.

Wear and tear always depends on a thing lasting.—W. H. ELLIS.

5129. Namelt.—This little article is practically useful and is everything which can be wished for.—W. H. ELLIS.

5130. Hand-Camera.—W. G. Roberts, 5, Norman Terrace, Leytonstone, E., sells a hand-camera which fulfils all "Cantab's" conditions. I have one, and am well pleased with it.—ARTURO.

5130. Hand-Camera. Messrs. Sharp and Hitchmough, of Liverpool, supply a "Universal" camera, which is a thoroughly serviceable and well-made camera, fitted into a case for carrying in the hand, or can be used on a tripod with or without case. It has swing-back, reversing back, rising front, etc., and would take any number of lenses, provided you had fronts for them, if fitting different flanges. Write for particulars.—PEN.

5130. Hand-Camera.—"Cantab" cannot do better than write to W. J. Chadwick, 2, St. Mary Street, Manchester, for particulars of his "Practical" hand-camera. It meets the whole of "Cantab's" requirements.—Sr. TUDNO.

5133. Alpha Paper.—The following baths are recommended by most books, etc., for developing Alpha paper, viz.:

Oxalate of potash	16 drms.
Ferrous sulphate	1 "
10 per cent. solution of bromide of potash 1 "	
Water	4 oz.

The following is a combined toning and fixing bath which is used most for this paper, and is composed thus:

Hypo-sulphite of soda	2½ oz.
Acetate of soda	½ "
Sulphocyanide of ammonia	½ "
Chloride of gold	4 gr.
Water (distilled)	10 oz.

This bath may be used till it is discoloured. The operation does not take long, perhaps ten minutes. When this is done, place the paper into a bath containing salt water, and then into the washing tank.—W. H. ELLIS.

5134. Pyro.—You do not say in what proportion you mixed your solutions. Was it equal parts? I should think you had not exposed the plate as well as you imagined, or had got bicarbonate for carbonate of soda.—PEN.

5136. Toning.—
Chloride of gold 1 gr.
Acetate of soda 30 "
Water 8 oz.

Use twenty-four hours after mixing. A great deal depends on the negative though.—ARTURO.

5136. Toning.—Rich warm brown tones are obtained by treating the prints in the second washing water before toning with common salt. The following gives brown tones with the sensitised paper manufactured by the Blackfriars Photographic and Sensitising Co., 1, Surrey Row, Blackfriars Road:—

Acetate of soda	60 gr.
Chloride of gold	4 gr.
Water	20 oz.

To be made at least twenty-four hours before use.—BLISTER.

5136. Toning.—The tone depends chiefly on the kind of negative. You will generally get a good brown with the borax bath made up as follows:—

Borax	60 gr.
Hot water	10 oz.

Shake well, let it cool, and add Gold chloride 1 gr.

Use immediately, and throw away after toning one sheet.—CARLONATE.

5141. Mountant.—The Excelsior, Houghton and Sons, 89, High Holborn, W.C.—ARTURO.

5141. Mountant.—The following is a reliable one:—
Nelson's No. 1 gelatine 1 oz.
Water 10 "

Soak till swelled, then melt by aid of a water bath, and add, stirring vigorously—
Methylated spirit 5 oz.

Pour into a bottle and allow to set. Before use stand the bottle in warm water to soften the medium. Don't use it too thin. The spirit will separate out when you warm for use, and you can then mix the jelly up and use moderately stiff.—PEN.

5141. Mountant.—An excellent mountant can be made as follows, and will prevent the prints from curling as they dry:—
Gelatine 2 oz.
Glycerine 2 "
Methylated spirit 2 "
Water 8 "

First dissolve the gelatine, then add glycerine, and finally the spirit. Apply to the back of the print with a soft brush, lay the print on the card, over that place a sheet of paper, and with the hand rub the print down. See answer to 4940 in the AMATEUR PHOTOGRAPHER for August 21st. There he will see other mountants.—FORGET-ME-NOT.

EDITORIAL.

SPECIAL NOTICE.—We are very pleased to find that replies in this column are so much appreciated, but we should be very grateful if those requiring advice would send their letters to us BEFORE TUESDAY MORNING'S post if possible. The time occupied in replying in this column is very considerable, and owing to the often late receipt of letters, many matters have to be left over each week. This we much regret.—ED: AM: PHOT:

JAS. STOREY.—(1) Place your concave lens in front of the diaphragm of the single lens. (2) To lengthen the focus of a doublet, place the concave lens just in front of diaphragm.

METER (Jamaica).—(1) Tylar's exposure meter estimates exposure by the optical brightness of the light, which is obviously wrong. (2) Watkins' exposure meter is based upon the estimation of the chemical power of the light by the alteration in colour of a bromide paper, and also has scales for allowing for the stop, etc., and is certainly to be preferred. (3) We do not know the "Demon" dry plates, but certainly they could be developed in hydroquinone and a carbonate of soda developer.

AUBURN.—Your negative is under-exposed and fogged in development; use your developer weaker.

H. F.—As specimens of toning, your prints are the most miserable failure we have ever seen; you had better leave lead toning alone. Send us up some good prints, then we can criticise them. These are beyond criticism altogether.

H. WILD BLUNDELL.—We know of no special hand-camera adapted for surveying purposes, but should advise you to see the "Reflex" which we think might be made to suit your purpose.

H. HOLT.—The slides are still with us, but we can promise no date for criticism.

T. J. HUGHES.—We have sent on your letter to Mr. Ralph Robinson, who will doubtless write you.

A. F. W. F.—Your suggestions will not be lost sight of. We have already brought out six books in the form of an "Amateur Photographers' Library," and shall probably bring out others.

J. HODSOLL.—Many thanks for your letter of explanation; the matter is not one of public interest, and we return your letter.

F. B.—Read the rules preceding Sale and Exchange column and send stamps to the publisher, etc. Your advertisement will then be inserted.

CAPTAIN, 3RD BURMA BATTALION.—It is very good of you to send us so interesting a photograph, and we should have much liked to reproduce, but cannot do so with any justice. It is most gratifying that our suggestions for photographs of general interest should receive attention from amateur workers so far from home. Perhaps you will send us something at a future date for reproduction; we want a sharp photograph with strong contrast. We shall shortly be drawing up our list of monthly competitions for next year, and you will then be able to compete certainly in many of them. It is very encouraging to us to find in all parts of the world those who are willing to compete for the AMATEUR PHOTOGRAPHER medals.

ALFRED GREEN.—Do not take any further steps until we write you; of course, the matter shall be treated confidentially.

TE WIRIRIU.—The price is very unreasonable, we think, but possibly it is customary in the trade. If you have a good print, we will undertake to copy it, and also to make a good negative.

G. R. ASHLEY.—All apparatus sent us by makers for notice in our columns is returned within a few days. There is nothing really new in apparatus at Pall Mall. We shall be pleased to give you a specification for a whole-plate kit if you so desire.

J. L. LUDINGTON.—You will see by the list in last week's AMATEUR PHOTOGRAPHER that the 1891 Prize Slides are very closely booked. We could, doubtless, secure you a ticket to see the slides should they be shown anywhere near you.

S. J. BRADBURN.—The monthly lantern slides, Sept. and Oct., will be exhibited on the evening of Monday, the 26th, at 1, Creed Lane, and in the issue of the 30th the awards, etc., will be published.

CANTAB.—The α lantern is well made, but we think the β is worth the trifle more money.

J. REDHEAD.—Yes, that will be all right; we shall meet the slides at the railway station.

BRITANNIA WORKS CO.—We thank you for your letter re Dr. Maddox; doubtless the committee which you say is being formed will favour us with particulars of the scheme.

O'N. F. KELLY.—(1) The fault of your not doing with borax is due to the use of the alum. You do not want to use this except with a sulphocyanide bath. We have obtained good results with the α and β paper. (2) The print-out platinotype process is good, and if the paper be kept in a calcium tube, gives quite as good results as the old process. (3) We never use any other developer for the Paget plates, either xxx. or xxxxx., and are perfectly satisfied with our results. (4) The bath should be alkaline. (5) The borax bath will keep well. (6) Yes, we shall be pleased to loan you any prints you want if you pay packing fee.

A. S. B.—(1) Scholzig, Binfield Road, Clapham; Rudowsky, 3, Guildhall Chambers; Harcliffe and Co., East Street, Brighton, have print-out platinotype

papers, which give good results. (2) We should prefer No. 2 plate.

L. P. TAYLOR.—We should think the following about right:

Hypo	2 oz.
Sulphite	1 "
Water	20 "

Your method of washing prints ought to give permanent results.

W. CHARLES.—The statement taken "really by moonlight" or "instantly by moonlight" is, to say the least of it, untrue. If the slide is the one we know, it is merely a case of double printing, and was taken in sunlight. It is beyond the power of any man or any plate to take the subject you name "instantaneously" by moonlight.

R. V. F. PARTRIDGE.—(1) The following may be of use to you:

Sodium sulphite	20 parts.
Eikonogen	4 "
Water	300 "

Carbonate of potash	50 "
Water	300 "

Mix 5 parts of 1 with 2 parts of 2 and 15 parts of water.

(2) We should be inclined to say over-exposure, but can hardly state definitely without seeing print or negative.

DEVELOPER.—Carbonate of soda takes a long time to dissolve; use the water warm, or else place your solution in front of the fire with the cork out for a night, shaking frequently.

R. WANDMAN.—Yes, the lens would certainly cover the negative evenly, though you would have a great loss of light; far better put a large sheet of opal glass or tissue paper close to the negative and move your lamp nearer.

UNWISSED.—A good deal depends upon the bottle, as water dissolves out the silicates, which will cause precipitation. We should advise you to make up to 15 drms, and add a drop or two of pure hydrochloric acid. This solution would keep any length of time.

CLERICUS.—We insert as a query.

T. J. HUGHES.—Sorry we cannot give you the desired information. To us they appear to be made out of an old packing case, the decoration being modelled in putty or composition, and then laid on the wood. They are certainly far from being "things of beauty."

W. H. ELLIS.—None of the photographs were reproduced. The next "Boys' Competition" we shall hope to be able to give a little space to in the *Photographic Reporter* for December.

E. B. WAIN.—Duly noted. We return catalogue.

R. M. WORDEN.—The 9th of November has been booked; the slides will come to you from Carlisle, and must be despatched either the same night or first passenger train the next morning.

HALFORD, MRS.—We shall hope to publish the awards next week.

RUTAMA.—The twelve photographs in "Photographs of the Year" will be in "Woodbury Gravure" or clean-margin Woodburytype.

B. JUMEAUX.—You are debarred from entering any of our lantern-slide competitions, but are eligible for the monthly or other photographic print competitions.

CHAS. J. M. CHILD.—Ticket and entry forms have been sent you. The lantern is well made, and we believe gives good pictures. Send us the exposed slide and we will do as you suggest.

PERCY SHEARD.—Have replied by post.

A. D. GUTHRIE.—(1) Certainly you can enter; not any of the 1890 slides. (2) Yes, you may send any of the slides recently returned to you.

N. O. H.—We are not in a position to help you, but should hardly think it would be worth your while to give such a position as you should have when your articles are completed to become an operator for a landscape photographer. You had better write a straightforward letter to the firms you name. We have no means of knowing what salary, position, or style of work you would be likely to obtain.

B. FLATMAN.—Sulphokinone developer is sold by the Fy Manufacturing Company; the formula is no doubt a trade secret.

J. HARRISON.—Many thanks, but we regret that it will not be possible for us to reproduce the photographs as yet. Shall we return the prints?

A. H. FARMER (Melbourne).—The medal will soon reach you; the photographs sent by last mail are duly so. We shall enter them in our next big competition, "Holidays with the Camera."

F. E. BROWN.—Neither set of slides will be available on the 14th of November.

THOS. WIDDOE.—The 1891 Prize Slides are booked to you for Thursday, the 21st of February. You will not be obliged to send one or more of the slides were cracked when they reached us; we are not the fault.

McSIVAC.—You had better look through the list of fixtures for 1891 Prize Slides published in this week's AMATEUR PHOTOGRAPHER, and see if any of them are fixed in for Douglas to have them; we are now pressing on for them on the 9th of November. You might possibly have them from Liverpool on the night of the 13th if you could ensure their being at St. Helens on the 17th of November.

EV. LYV.—We are surprised at our being so easily discouraged. Is it possible for anyone to attain per-

fection in twelve months? Have another good try, and follow out our suggestions, or else send us up one or two negatives, that we may show you what can be done with them. (1) Printed far too deep. It strikes us that the negative would bear intensifying. (2) Ditto. (3) Good. (4) Over-toned and flat. (5) Over-printed and over-toned; negative wants intensifying. (6) Ditto. (7) Ditto. (8) Ditto. (9) Ditto. (10) Good. (11) Good. (12) It only wants a small yacht and some clouds in the centre to be perfect. (13) Good. (14) Over-printed and over-toned. You are printing in too strong a light, printing too deep, and using your toning and fixing baths too strong. Try a little gelatin-chloride paper, either shiny or matt-surface; or, if you stick to plain paper, put your prints into salt and water instead of plain water, to wash them. Let us have a negative or two to print from for you, or else call on us one Monday afternoon. You have considerable artistic taste, and merely require a little coaching in technique to turn out good work quite equal to our competition standard. Rome wasn't built in a day.

H. S.—Letter by post.
C. T. P.—The reason of your obtaining greenish-black tones in bromide paper is too short exposure and too much bromide. A developer weak in iron means grey tones. Try again, increasing the distance between your negative and light; thus, instead of giving, we will say, 20 seconds at 2 ft., give 80 seconds at 4 ft., and use a developer compounded of 1 part of iron to 4 parts of oxalate, or add 1 part of sulphurous acid to every 7 parts of mixed developer, or try the eikonogen developer recommended to a correspondent above in this column.

F. M. W.—(1) There is no satisfactory remedy for this defect but coating the back of the negative with yellow matt-varnish and wiping off above the dark streak. (2) We do not understand this at all; send us up a print showing the defect, or else the negative.

DEERY.—You leave us too much in the dark. You do not state whether you want a print-out emulsion or one to develop, a bromide or a chloride, whether collodion or gelatine, or whether the emulsion is to be kept any time, or to what light you want it sensitive. Write and give us a few more data, and enclose a stamped directed envelope, and we will then write you privately.

S. A. Y.—Write to the Incandescent Gas Company, 14, Palmer Street, Westminster, for one of their pamphlets, and ask for estimate for fitting one of their Welsbach burners to your lantern.

J. B.—Yes, you could have the negative retouched; it would merely want the double nose and cheek outlines removed, the fuzzy hair added to the effect. Send a print, such as you have sent us, to Lindsay Hemery, Hanover Studios, Peckham, London, S.E., and ask his advice.

HARRY.—Pressure of work has prevented us from preparing the promised article or trying your paper, but we hope to do both at once. With regard to the new paper the makers have not considered it necessary to send us samples, consequently we hold our tongues.

H. A. B.—Use dry Castile soap, and heat your burnisher more, passing the print through three or four times, and use more pressure.

H. I. C.—(1) A mixture of oxalic, phosphoric, and citric acids, 1 to 20 of water, has been recommended, but it is a difficult job. (2) The cyanide solution should be white, but probably it was not absolutely pure, and the impurities and the cyanide have acted on the glass, forming the brown colour.

C. FLYKE.—(1) The best time of the year to sell is in the spring, but you should watch the exchange column to see if anyone advertises for such a thing. (2) We receive apparatus of any kind for buyers to see. (3) Plates will keep good a year or two at least. (4) A portrait lens is the best for portraiture. (5) Portraits should never be taken in the sun, always in the shade.

F. W. G.—Print under green glass, and use the chloride of lime toning bath.

AM. FOR.—(1) Pringle's "The Optical Lantern," and Hepworth's "Book of the Lantern" are the only lantern works, but, so far as we are aware, they do not contain instructions for making a lantern. (2) There is no such set of lenses on the market at the price you name. Whittingham and Co., Charterhouse Square, have a set for £5 5s. (3) The simplest printing-out process is Pizzighelli's paper, from Rindowsky, 3, Guildhall Chambers, London, E.C.

Q. E. F.—Whittingham and Co., 43, Charterhouse Square, E.C., will supply ferrotype plates 14 by 10 at 4s. per dozen.

A. W. DALBY.—You had better look down the list of fixtures in last week's AMATEUR PHOTOGRAPHER; possibly you might have them between the 2nd and 11th of March, provided you could despatch them from Bristol for Dublin in time to reach there on the 11th of March. Or possibly we might arrange for you to have them between the 10th and 16th of February, or between the 26th February and 2nd of March. Let us hear from you.

MISS ETHEL WHITMORE.—We hope to have them judged next week.

J. J. HALLAM.—The 1891 Prize Slides have been booked to you for the 4th of February, and will come on from Keighley.

M. S. DAVID.—(1) Yes. (2) Yes, if it has not previously gained a prize. (3) We will write you later on.

Sale and Exchange.

COMMISSION.—A charge of 2½ per cent. will be deducted from all deposits whether a sale is effected or not. Minimum charge 1s.

PAYMENT.—All payments are to be by cheques or Postal Orders, made payable to **Hazell, Watson, and Viney, Ltd., 1, Creed Lane, London, E.C.**

Backgrounds.—Pair of backgrounds, interior and exterior, high-class, 8 ft. by 8 ft., on rollers, not solid; 50s. the pair; worth double. — 3, Waverley Road, Wandsworth, Staffs.

Bicycle.—A Stanley and Sutton's Rover safety; 1½ price £20; will sacrifice for £9; balls everywhere; magnificent roadster; owner giving up riding. — J., 25, Lincoln Street, S.W.

Cameras, etc.—Whole-plate long-focus camera, Middlemiss patent, five double slides, tripod, new; £9; cost £12 5s.—88, Victoria Street, Sheffield.

Lancaster's whole-plate camera; cost £6 6s.; will take £4; open to offers. — J. Mansfield, 12, Athelstan Road, St. Stephen's Road, Pow, E.

Will exchange a new whole-plate Thornton-Pickard Ruby camera and three double dark-slides for a Hume enlarging lantern, in perfect order. — Address, No. 25, AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.

Cameras, Lenses, etc.—12 by 10 square camera, extends to 35 in., with one double slide, rapid rectilinear lens (selected French), wide-angle rectilinear (by Taylor, Leicester), adjustable to height stand; all for £15; practically new. — Baird, 15, Lothian Street, Edinburgh.

Changing Box.—Lancaster's quarter-plate changing box and dark-slide, for 1891 Instantograph camera, perfectly light-tight and in good condition; 14s.; cost 21s.—Thomas Hill, Market Street, Bury.

Hand-Cameras, etc.—Hand-camera, holds twelve quarter-plates; cost £4 4s.; sell 5s.; bargain; approval. — No. 212, AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.

Underwood's 42s. hand-camera, for 11 quarter-plates, as new, only 21s.; whole plate R.R. lens, 30s. — H. Rowe, Wallbridge, Stroud, Glos.

For sale, Swinden and Earp's hand-camera, to carry 20 quarter-plates, good as new; price £3 3s., without lens. — Townsend, The Hollies, Berkswell, near Coventry.

No. 4 Kodak Junior, for 5 by 4 pictures, with two complete spools, quite new; cost £11; price £7 10s.—E., 7, Park Village West, N.W.

Lantern.—Perken and Rayment's Optimus, splendid instrument, good as new, with apparatus for lime-light and oil lamp; a bargain. — T. B. Davies, Pasture Lane, Clayton, Bradford.

Optical lantern, superior mahogany, 2½ in. condenser, rack movement, portrait lens, 4-wick lamp (oil), and blow-through oxygen jet; 30s., including 36 2½ slides.—135, London Road, Croydon.

Lenses, etc.—7½ by 5 Optimus R.R. lens, flange and stops, 27s. 6d.; half-plate R.R. lens, stops, and flange (by Tench), 22s. 6d.; both in good condition. — Apply, No. 214, AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.

Whole-plate R.R. lens, with stops, splendid instrument (by Dale); only 30s.—J., 25, Hindon St, S.W.

7 by 5 Optimus Enryscope wide angle lens, new; £3. — Gambling, Steel Bank, Sheffield.

Dallmeyer's 10 by 8 rapid rectilinear; £6 10s.—John Daniell, Colehill, Llanelli.

Splendid half-plate rectilinear lens for sale; 30s.; cost double. — E. Burridge, 42, High Street, Watford, Herts.

Sets.—Half-plate Middlemiss camera, all movements, fitted with Newton's orthopaenic lens, three double backs, and new tripod stand; cost £9 few months ago; will exchange for whole-plate Middlemiss camera, with three double backs; will give little cash for really good apparatus; approval. — Fred Wood, The Laurels, Wolstanton, Stoke-on-Trent.

Good half-plate set; bargain for 70s.; approval. It is Instantograph camera, slide, tripod, R.R. lens. — 3, Hawthorn Villas, Slad Road, Stroud, Glos.

Rayment's patent whole-plate camera, Optimus lens, plunge shutter, Eastman roll-holder, dark-slide, tripod, canvas cases, first-rate condition; price £14; cost over £19.—H. Fardell, 26, Hyde Park Street, W.

For sale, half-plate Rayment's patent camera, three backs, R.R. and W.A. lenses (by Perken, Son, and Rayment), leather case, stand, Phantom pneumatic shutter, lamp, view-finder, superior scales, and all ceteras; cost over £15; what offers? — Hughes, 29, Halford Road, Richmond.

Whole-plate double-back camera, with horizontal and vertical swing reversing back, rising and falling swing front, three double backs, Dallmeyer's 10 by 8 R.R. lens, Sands and Hunter's shutter, tripod, and solid leather bag, in good condition; cost £26 10s.; price £15.—No. 215, AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.

Excellent whole-plate long-extension field camera, swing-back, rising front, reversing frame, two double backs, quite new; £4; approval; deposit; full particulars on application. — D. Padgham, Northiam, Sussex.

Underwood's quarter-plate Instantograph, lens, shutter, tripod, and three double slides, new condition; 50s. Wanted, enlarging apparatus. — Jones, Holly Bank, Llandudno.

Underwood's Stereograph, for half-plate or stereoscopic, spring roller division, three double backs, also three 7½ quarter-plate double backs and adapter, new this year, perfect condition; £4.—D., 8, Egunout Terrace, Stalybridge.

Half-plate camera, double back, 7½ by 5 lens (by Tench), stand, two metal slides, with adapter, canvas bag; want offers; shown between 5 and 6.—W. U. C., 41, Lansdowne Gardens, Clapham Road, S.W.

McKellen's patent camera, 12 by 10, six double backs, tripod, and turntable, several inner frames for smaller plates, new condition, in two waterproof cases; cost £20; sell for £15, or offer in exchange. — John Collins, Marchurst, Tonbridge.

Bundries.—100 stereo photographs of Egypt, pyramids, temples, excavations, cataraacts, etc., by Frith (unmounted), mahogany stereoscope, hinged top; what offers? — Photos, 144, Grosvenor Park, S.E.

For sale, Watkins' exposure meter, in perfect order, ss.; burnisher, well lamp, 6 in., 10s.; tripod stand, 10s.—Wettington, Woolley Park, Wakefield.

Camera bag, waterproof canvas, half-plate; 3s. 9d.; new.—Adams, Harold Woods, Essex.

Lens adapters; 1s. 6d., post free; send camera front and flange requiring adapting. — Patient, 37, Mount Park Crescent, Ealing.

"Holidays with the Camera," half-price, new.—E., 29, Park Avenue, Willesden Green.

Instanto double slides, half-plate, best condition; "Photography," Nos. 21 to 130; "Photography Annual," 1891; offers; or exchange for good quarter-plate camera; whole-plate adapter, with double slide; Wood's washer; lantern slides, history, travel, science, etc.—Bartlett, Colporteur, Stratford-on-Avon.

AMATEUR PHOTOGRAPHER, 181 to 367; "Photography," 12 to 153, as new; "British Journal Almanac" and "Year Books," 1888, 1889, 1890, 1891; "American Annual," 1890; sell, or exchange for half-plate camera.—Dixon, 53, Carlton Street, Leeds.

Champion Still, 6s.; Newman's shutter, 15s.; Houghton's changing tent, 18s.; Shew's hand-camera, with case, and camera clip, 65s.—Pratt, East Bridgford, Notts.

Magnesium lamps, 6d. each, postage 3d.; magnesium ribbon, 2d. per yard; particulars free. — Humphries, 29, Crafton Road, Holloway, London.

Ober-Ammergau "Passion Play" of 1890, splendid set of 100 slides on hire, largest set extant, coloured, first-class style; 15s. per night; book date at once.—J., 25, Hindon Street, S.W.

AMATEUR PHOTOGRAPHERS, unbound, clean, 5½ years, July, 1885; December, 1890; the lot for 20s.—Baird, 15, Lothian Street, Edinburgh.

What offers for vols. viii. to xiii. AMATEUR PHOTOGRAPHER? nearly new focussing glass, 3s.; good oak tripod for hand camera, 5s.—W. Clare, Sydney House, Malvern, Wells.

AMATEUR PHOTOGRAPHER, vols. i, ii, and iii., bound; vols. iv., ix., x., xi., xii., xiii., unbound; one number missing from vol. xi.; 12s. the lot.—J. C., 157, Wairod Street, London, W.

Watson's 6 in. condenser enlarging lantern, with objective, Argand burner, in perfect working condition; £5; can be seen by appointment.—No. 213, AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.

WANTED.

Cameras, etc.—Lancaster's half-plate extra-special 1891 camera, or other good make, cheap for cash; no rubbish; full particulars. — A., 52, Shepherd's Bush Road, W.

A thoroughly good enlarging camera and lantern, 4½ condenser, no front lens; on approval. — Geo. Edwards, Cheston, Torquay.

Cameras, Lenses, etc.—Wanted cheap, Lancaster's quarter-plate Instantograph, with R.R. lens, extra slides preferred. — P. B., Box 43, St. Helens, Lancashire.

Will exchange Griffiths' hand-camera, with six double slides, complete, for quarter Instantograph, complete; approval.—E. Whitmore, Merton Park, Surrey.

Hand-Cameras, etc.—Good hand-camera; exchange AMATEUR PHOTOGRAPHER, complete, violin-cello and bow, Budgetgees, paintings, etc.—3, Walpole Street, Wolverhampton.

Lanterns.—Hughes' Pamphengos lantern. — H. Short, Perryn Road, Acton.

Lenses, etc.—7 by 5 rapid rectilinear lens, by leading maker, with or without time and instantaneous shutter, must be good and cheap for cash; full particulars.—A., 52, Shepherd's Bush Road, W.

Negatives.—Negatives, views of Kent churches, must be cheap; send list and sizes. — James Hodson, Farningham, Kent.

Sundries.—Oxy-hydrogen jet for limelight, with india-rubber tubes preferred; state lowest price for cash.—B. Jerome, St. Francis Xavier's, Mayfield, Sussex.

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No. 369. Vol. XIV.]

FRIDAY, OCTOBER 30, 1891.

[PRICE TWOPENCE.]

OUR VIEWS.

"To hold as 'twere the mirror up to nature,"—*Shakespeare*.

OUR VIEWS.—The Work of Photographic Societies; Want of Interest; Growing Increase of Papers and Demonstrations by Traders—What a Member of the Committee of a Photographic Society would Like us to Do—Lewisham High Road Camera Club; Syllabus for Winter Session—The Third AMATEUR PHOTOGRAPHER "Monday Evening"—The No. 6 and 7 Monthly Lantern Slide Competitions; List of Awards, Classification of Competitors, Analysis of Plates Used—Future Lantern Slide Competitions—The Exhibition at Hackney—South Hornsey Photographic Society—Photographers' Benevolent Association—A Photographic Society at Port Elizabeth—Editorial Work on "Monday Afternoons"—Fixtures for AMATEUR PHOTOGRAPHER 1891 Prize Slides.

LEADER.—Beginners' Difficulties—Gretchen (Gambier Bolton).

ILLUSTRATION.—"A Haven of Rest, Rye," by Algernon Brooker.

LETTERS TO THE EDITOR.—Photography and Chemical Nomenclature (J. G. P. Vereker)—A Vignetter (Centurion)—German Customs and Dry Plates (J. R. Greatorex)—Wanted, a New Photographic Club (T. Mansell)—Polytechnic Photographic Society (Geo. J. Goose)—Development (W. H. Ellis)—A Disappointed Critic on Criticism (A Landscape Photographer)—Choice of Lens (Charles MacLaurin)—Photography at Home (Dumont).

ARTICLES.—Composition and Light and Shade (Robinson), illustrated—Photographic Procedure (Wall), illustrated—How I Started a Successful Society (Provincial).

NOTES.—Thursday Evenings at the Camera Club.

QUARTERLY EXAMINATIONS IN PHOTOGRAPHY.

EXHIBITIONS.—Hackney Photographic Society.

APPARATUS.—Wray's Lenses—Iford Gelatino-Chloride Printing-out Paper.

SOCIETIES' MEETINGS.—Belfast (Y.M.C.A.)—Bury—Birmingham—Bristol—Cardiff—Croydon—East London—East Southsea—Glasgow and West of Scotland—Inland—Isle of Thanet—London and Provincial—North Kent—North Middlesex—Oxford—Omney—Richmond—Sheffield Lantern Soc.—Southsea—South Hornsey—Torquay—Tunbridge Wells—Ulster (Belfast)—Wigan—West London—Woolwich and District.

EDITORIAL DEPARTMENT.—All Literary Contributions, Queries and Answers, Photographs for Competition or Criticism, Books or apparatus for Notice or Review are to be addressed to the EDITOR, AMATEUR PHOTOGRAPHER, 1, CREED LANE, LUDGATE HILL, LONDON, E.C. (*All Communications should reach the Editor on Tuesday.*)

TRADE ADVERTISEMENTS are received up to Tuesday morning.

PUBLISHING DEPARTMENT.—All letters containing Subscriptions, Orders, Remittances, SALE and EXCHANGE Advertisements, or other business matters for the AMATEUR PHOTOGRAPHER are to be addressed to the Publishers, HAZELL, WATSON, AND VINEY, LD., 1, CREED LANE, LUDGATE HILL, LONDON, E.C. (*SALE and EXCHANGE Advertisements, at the charge of Three Words for One Penny, can be received as late as WEDNESDAY MORNING.*)

Amateur Photographer" 1891 Stereoscopic Slide Competition, (Fifth Year).—Prizes: Gold, Silver, and Bronze Medals, and Certificates in each class. Competitors can only enter one class, and every competitor must contribute six slides.

CLASS I.—Landscape, Sea Pieces, and River Scenery, with or without figures.

CLASS II.—Architecture, Interior or Exterior.

CLASS III.—The Fine Arts, which may include Sculpture, Art Metal Work, China, Bric-a-Brac.

NOTE.—Past prize-winners will be awarded "Niece," or progressive medals, should they win a medal of the same value as that which they have been awarded in past Stereoscopic Slide Competitions.

DATE.—All slides must be received on or before October 30th, 1891.

RULES, CONDITIONS, and ENTRY FORMS will be forwarded on receipt of stamped addressed envelope. The application should be endorsed, "STEREOSCOPIC SLIDE COMPETITION," Editor, AMATEUR PHOTOGRAPHER 1, Creed Lane, E.C.

"Amateur Photographer" Monthly Competition No. 30—"INLAND SCENERY." Latest day, NOVEMBER 2ND.—Prizes: Silver and Bronze Medals, with Ribbon and Clasps. One print only to be sent in. Entry forms, etc., on receipt of stamped envelope. Address: Editor, AMATEUR PHOTOGRAPHER, 1, Creed Lane, E.C.

"Amateur Photographer" Monthly Lantern Slide Competition (Seventh)—"ARCHITECTURE (INTERIOR AND EXTERIOR)." Latest day, NOVEMBER 19TH.—Two Slides to be sent in. Entry Forms, etc., on receipt of stamped envelope. Address: Editor, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C.

Members of the Editing Staff are "At Home" on Monday, afternoons from Two till Five o'clock, and they will gladly give advice upon all photographic matters.

CONSIDERABLE apathy exists in connection with the many photographic societies that have been formed all over the country, and in order to give more publicity to our views, we extract the following from the *Photographic Reporter* for November:—

"We fear that the enterprise of trading firms and photographic journals has rather a tendency to slacken the exertions of individual members of societies. The papers read and demonstrations given by members have, we notice, shown considerable falling off. The societies get down from London Messrs. Brown, Jones, or Robinson to demonstrate a new paper, process, or apparatus, which they do free of charge, in order to make known their wares. This is all very well, but is it at all likely that the difficulties to be met with in using their paper, process or apparatus will be pointed out or even hinted at? Everything will be shown in the most rosy tints; and too frequently the purchaser will find himself beset with difficulties, and, as we think, give up the work in disgust. * * * *

"This ready-made business for photographic societies tends to apathy amongst the members. The Secretary, anxious to get something for the meeting night, accepts the trader's offer, and so relieves himself of the very troublesome, and often, we fear, almost impossible work of getting a member to read a paper or give a demonstration based upon his own practical experience, in which, of course, he is honest enough to point out the faults as well as uphold the good qualities of the materials he has been using. There is much work to be done by photographic societies, and we have been greatly disappointed to find, on carefully looking through the 'official announcements' given in this magazine, out of the two hundred or more societies, how few, very few, are really doing anything to advance photography, or to help each other to become proficient in the art. The principal fixtures for the month are lantern shows and demonstrations by traders. * * * It is perfectly useless to continue to multiply photographic societies if, after the first year of their formation, they are to drag out a weary existence, kept alive only by the efforts of outsiders. We know of a case in which a society was established, reached a membership of thirty or forty, and for a time did good work. What is the position now? Population, 40,000; active membership, 2; enthusiasm, nil. Another case—A membership of some fifty or more; a President known by every worker in photography in the United Kingdom, who always honours the meetings with his presence; a Secretary active, courteous, and a good photographer. The attendance does not average more than a dozen, and with the exception of the officers named, almost all the papers, etc., have been given by outsiders, not traders, as the President of this special society holds that they have no province at meetings of members of photographic societies, and only come to magnify their own works and succeed in putting a stop upon all free and fair discussion."

To further prove our statement, we cannot resist the temptation of publishing a letter received on Tuesday after-

noon of this week, withholding the name and address of the writer and the Society in which he is interested. He writes:—

"As one of the committee of the ——— Phot. Society, I have been (very unexpectedly to myself) called upon to give a paper on Platinotype Paper. Now I must tell you they have asked for this subject on account of having seen a lot of my work finished in this style, but at the same time I must confess that my knowledge outside the simple printing and developing in the hot bath, etc., is perfectly limited, so that if you would give me a few hints, I should be extremely obliged, as, for instance, (1) What are the advantages and disadvantages of the hot and cold processes? (2) Need the exposure be more carefully made for the cold than the hot process? (3) If not infringing on patent rights, of what and how is the paper prepared? (4) Are there any good modifications on formulae and instructions given? (5) How, if desired, could the prints be "glazed?" And any other hints to help out a forty-five minutes paper will be very thankfully received. Now, there is one more thing I should like to ask, but if in so doing I am asking anything unreasonable, I am exceedingly sorry; it is this, as I have not time in daylight, and am very uncertain on my results, I should be only too glad to pay what the charge may be if you would get me three or four half plates, and six quarter plates printed on platinotype, so that I can develop them at the reading. I don't know what to say about negatives to take them from, but if you have any pretty view you could take them off, and would tell me what they are, that would suit me quite well.

"Now, why I have gone so far in this matter is this—the society has lasted for years, but in a half-hearted way, and has never done anything. This year I have made many proposals, and they have been accepted, so I don't want to draw out of this paper, as I fear it would look as if I was willing to talk but not do.

"And now, sir, I hope I have not taken too much of your time up, but I have ventured, believing you would be willing to assist me in getting our society to either *do something or break up*. I may mention I am not an outsider, for I have my AMATEUR PHOTOGRAPHER from Part I.

It is well known by our many friends all over the world, that we will do almost anything for our subscribers and for the advancement of photography, but we must draw the line at the preparation of a "forty-five minutes paper," with examples, which a gentleman who knows practically nothing about the subject would be willing and doubtless proud to father as his own.



THE Lewisham High Road Camera Club has been a success from its inception, and the syllabus for the forthcoming session kindly sent us by the Club's courteous and energetic Hon. Sec, Mr. B. Davidson, proves that this season the members will have provided for them a programme second to none of the metropolitan photographic societies. As a guide to the executives of kindred societies we have much pleasure in giving it *in extenso*:

1891: October 2, Demonstration, "Lantern Slide Development," The Britannia Works Co.; October 16, Paper, "What Not to Do," C. Lanchester; November 6, "Development of Negatives on Gelatine Bromide Emulsion," Andrew Pringle; November 20, "Art in Relation to Photography," (lantern illustrations), Valentine Blanchard; December 4, "Demonstration, Autotype Printing," The Autotype Company; December 18, "THE AMATEUR PHOTOGRAPHER 1891 Prize Slides," Charles W. Hastings (Editor of AMATEUR PHOTOGRAPHER, etc., etc.)

1892: January 15, Demonstration, "Enlarging," A. R. Dresser; February 5, An Evening with J. Traill Taylor (Editor of *The British Journal of Photography*); February 19, "Light Measurement," experimentally illustrated by photometric comparison of Electric, Magnesium, Gas, and Petroleum Lights, Professor Lambert, M.A.; March 4, Annual Soirée (full particulars will be announced); March 18, "Photography with an Object," Alfred H. Miles; April 5, Annual General Meeting. Election of Officers, etc.

In addition to the above there will be a "Print Competition" and a "Lantern Slide Competition" open to members, in which medals or certificates will be given. The Club now numbers nearly seventy members, including some ten or twelve ladies, most of whom, we understand, are active members.

THE Third AMATEUR PHOTOGRAPHER "Monday Evening" notwithstanding the most inclement weather, was well attended and our rooms crammed, many being unable to obtain admittance. Next season there is little doubt but that, in the words of a popular actor, we shall have to "make other arrangements." The work of the evening consisted in projecting on to the screen the slides that have been contributed to our last two "Monthly Lantern Slide" Competitions, *i.e.*, No. 5, "Landscape, Seascape, and River Scenery," and No. 6, "Portraiture and Figure Studies." No less than sixty entries were received for the former and twenty-three for the latter. The slides were all passed through the lantern, and divided into four classes. Those in Class 1 were again shown, and from them the Prize Slides were selected as follows:—

No. 5—LANDSCAPE, SEASCAPE, and RIVER SCENERY.

First (Silver Medal) .. David Cameron, Glasgow.

Second (Bronze do.) .. T. H. Faulks, Cardiff.

Third (Certificate) .. James Brown, Newcastle-on-Tyne.

Fourth (Extra do.) .. Hubert Nye.

Mr. Cameron's two slides were "In Luss Straits, Loch Lomond," and "Whaur the Burnie Rins Doon tae the Sea," near Mountstuart, Buteshire. In both cases Mawson plates have been used, the slides made by reduction, and developed with pyro and ammonia. The slides are in every sense perfect, and were highly approved by the audience. Mr. T. H. Faulks is a well-known lantern worker, but has not, so far as we remember, taken a medal before in any of our competitions. His pictures, "Henshole Castle from the Lake" and "Breakers," are both made by contact on Mawson plates, developed with hydroquinone: the second slide claimed the most attention. Mr. James Brown is well known in the north of England, and we are very pleased to find him a prize winner. His slides "Shades of Evening" and "By Tranquil Stream," prove him to be an apt follower of a good master, Edgar G. Lee. The slides were made by contact on Thomas' plates, developed with hydroquinone. Mr. Hubert Nye richly deserved the extra certificate for two fine studies of waves at Bognor. The slides were made by reduction on Fry's plates, developed with hydroquinone.

The remaining slides entered for this competition were classed in the following order:—

(1.)		(4.)	
Pickard, C. R. H.	Gay, Leonard	Atkins, Dr. R.	
Bentley, H. Clark	Cunningham, T. A.	Taylor, Thos. H.	
Smedley, Fred.	Bloomfield, H. W.	Pollock, Jas. A.	
Farthing, W. J.	Hammond, H. H.	Bradburn, S. J.	
Lord, G.	Hudson, M. H.	Dalton, Dr. A. J.	
Webbing, A. H.	Stainthorpe, Dr. W. W.		
Coulthurst, S. L.	Austin, Geo.	Hatcham, F. J.	
Cooper, H. N.	Pearson, John	Wise, H. S.	
	White, Geo. T.	Markham, R. G. L.	
	Woolley, Samuel	Sharland, Rev. G. F.	
(2.)		Graham, Jas.	
Shimwell, H.	Sheard, Percy	Galloway, W. E.	
Hall, Wilfred		Myers, Ellis	
Crowther, W. S.	(3.)	Dowdall, Major A.	
Cursley, F. E.	Andrews, W. S.	Hildyard, G. W.	
Moseley, Rev. H. H.	Thompson, Henry	Harris, Rev. H.	
Gilbert, Thos.	Marsland, Walter.	Sibthorp, Rev. H. J.	
Bailey, W. H.	Kirkwood, Joseph J.	Owen, John A.	
Arnold, Prof. J. O.	Westlake, G. H.	Morgan, J. W.	
Plews, F. W.	Ellis, J. E.	Kellow, J. E.	
Marriott, E. L.	Clarke, Thos.		
	Boville, Geo. J.		

An analysis of the lantern plates used will, we think, prove interesting, so we give it, viz.:

Thomas	54	Edwards	4
Mawson	20	Cowan	2
Iford	15	Paget	1
Fry	10		
Iford, "Special" ...	9		
„ "Alpha"	5		
		Total, 120 plates, used by 60 competitors.	

No. 6—PORTRAITURE AND FIGURE STUDIES.

First (Silver Medal) .. W. Lamond Howie (Eccles).
Second (Bronze do.) .. William R. Weir (Rickmansworth).
Third (Certificate) .. Dr. J. R. Ratcliffe (Birmingham).
Fourth (Extra do.) .. Arthur J. Golding (Tufnell Park).

Mr. Howie's slides are really superb, "Waiting," a girl looking out across the fields, and "Grinding the Claymore" are both typical Scotch scenes, and were taken at Kinlochewe on Loch Maree, Ross, N.B. They are both by contact on Mawson plates, developed with ammonio-sulpho-pyrogallol. Mr. Howie has already taken the AMATEUR PHOTOGRAPHER Bronze Medal. Mr. William R. Weir sends two really admirable studies, "The Village Cripple" and the "Village Drunkard." He tells us that the negative from which the former was made was taken instantaneously at Chalfont St. Peter, on a bright day in July. The latter is from an instantaneous exposure at Chalfont St. Giles. The slide would fetch a premium if offered as an "awful example" to a temperance lecturer. Mr. Weir says, "The subject was so tipsy that he could not stand without support, and had just let a bottle fall when I took him." The slides are by contact on Mawson plates, developed with eikonogen. Dr. J. R. Ratcliffe contributes "Nurse" and "Baby;" the former is a splendid slide, but the latter is not equal, or we think he would have taken a higher place. The slides are by reduction on Mawson plates, developed with hydroquinone. Mr. Golding's slides are "A Seaside Study" and an "Interesting Argument," and are of very equal merit, made by reduction on Ilford Special plates, developed with hydroquinone.

In this competition the remaining entries were classed as follows:—

(1)	(3)	Betjemann, G. R.
All prizes.	Brown, Geo.	Miles, W.
	Dart, W. B.	
	Millar, Alex.	(4)
	Glazebrook, T.	Thomas, A.
Perkins, Rev. F.	Austin, Geo.	Lord, G.
Pleus, F. W.	Dowdall, Major	DeLevy, A.
McEwen, Wm.	Ellis, J. E.	White, G. T.
Pennefather, W. de M.	Cassingham, W. B.	Burr, Herbert

The analysis of plates is as follows:—

Thomas	...	19	Edwards	...	...	3
Mawson	...	9	Ilford	...	...	2
Ilford "Alpha"	...	7	Paget	...	...	2
„ "Special"	...	4				
46 plates, by 23 competitors.						

THERE will be two more Monthly Lantern-Slide Competitions this year: November 19th, "Architecture—Exterior and Interior;" December 17th, "Figure Studies and Humorous Pictures." The Slides entered for both these competitions will be shown on our "Monday Evening," the 21st of December, by Mr. Charles W. Hastings. We hope to have a very large number of entries in the "Humorous Pictures," considering that there is a wonderful scope for some really original and amusing work.

"PHOTOGRAPHS OF THE YEAR" will probably be published next week. After publication no copies will be sold for less than 10s. 6d. The first edition has nearly all been subscribed for. The plates are magnificent, each one worthy to be framed. The work reflects the highest credit upon the Woodbury Company, and will do much to popularise Woodbury gravure. All subscribers' orders, prepaid, must reach our publishers on or before Thursday, the 5th of November. Copies will be delivered in strict accordance with the date of order.

THE exhibition promoted by the Hackney Photographic Society was a very great success. We give some account of the exhibits in another column and the list of awards. Much credit is due to the Hon. Sec., Mr. W. Fenton Jones, and to the executive for the admirable arrangements that were made. The Society has always been a real live one, and in their exhibition they passed a long way ahead of the work of some of the metropolitan societies.

ANOTHER new society has been formed with the title the South Hornsey Photographic Society. A notice appears in another column, and the Hon. Secretary, Mr. Harold A. Rutt, of 2, Alexandra Road, Finsbury Park, N., will doubtless be glad to hear from any one who may be desirous of joining. We should have thought that with the North Middlesex and North London, both first-class, admirably conducted societies, the district was well catered for, at least so far as practical photography is concerned.

THE Hon. Secretary of the Photographers' Benevolent Association, Mr. H. J. Beasley, writes us:

"The Council of the Photographic Society of Great Britain have, with their customary kindness to us, allowed the exhibition of their society at the Gallery of the Royal Society of Painters in Water Colours, 5a, Pall Mall East, S.W., to be used for the benefit of this association on the evening of Friday, the 6th November next. There will be an exhibition of lantern slides at 8.45 p.m., when specially selected slides will be shown. Doors open at seven. Tickets of admission, price sixpence, can be obtained from the attendants at the gallery." Tickets can also be obtained from Mr. Beasley, whose address is 65, Chancery Lane, W.C.

THIS week's mail has brought us a letter from Port Elizabeth, South Africa, in which Mr. Cecil G. Ablett, the Hon. Secretary, advises us of the formation of the "Port Elizabeth Amateur Photographic Society." At the first meeting held early in September, twelve members were enrolled. At the date of this letter the membership had been increased to forty. Mr. Ablett says: "The society is formed for the purpose of bringing together all those who take an interest in the art-science of photography, as well as to provide conveniences for photographic study and manipulation. We have our own studio and dark-room for the use of members. At the last meeting, which was held in the studio, the President gave an exhibition of local views and portraits with the lantern. The slides were all the work of members. It is intended to hold a competition shortly, the sum of £3 3s. having been presented to the society for that purpose."

We shall be pleased to give any of our readers an introduction to Mr. Ablett, should they be going out to South Africa, as we are quite sure Englishmen, or the matter of that any one interested in photography, would receive a hearty welcome.

THE experiences of our editorial staff at our receptions on Monday afternoons are varied in the extreme. Taking this week's as a sample, we have first a visit from an enthusiast in bromide printing, but who fails to account for the variation of greys and want of black tones which he sometimes gets; however, a quiet chat soon puts this right. The next claimant for attention brings six exposed plates with a request that they may be developed, as he can't make head or tail of his work, and does not know whether his exposures, development, or the plates are wrong; he is promised that the plates shall be carefully developed, and negatives and prints from them sent up in the course of the week. Before this one is got rid of, however, another amateur appears, and wants to know what is

the matter with two or three negatives, how he is to develop to gain density in the foreground with fine detail in the distance, what sort of results matt-surface chloride paper gives, the best toning-bath and treatment for the paper, also whether some oxalate of potash he has bought is oxalate or what; and he goes off with the promise of receiving a report on the salt by the next day's post. A little breathing space, and the next incomer wants to know the best plates to take to Sierra Leone, the proper way to have them packed, and what about the exposure there. Another request for the exposure at Nice in the middle of next month as compared with England. Now we get two at once, one enquiring about some competition prints, the other as to the artistic and technical quality of some prints, whether they are up to competition standard, why his negatives have black edges, and why his prints are flat. After so many questions about failures, the next visitor is hailed with a sigh of relief, for we are treated to the sight of some very fine lantern slides of horses and animals, the slides of exquisite quality and workmanship, and also of good scientific value, as showing the difference between the thoroughbred and the badly-bred horse; a chat about lantern shows and instantaneous shutters crops up also. Our next visitor goes away sadly dissatisfied, we are afraid, because we cannot tell him where to get lessons in photography cheaper than twelve for one guinea, or at the rate of 10½d. per hour, about the same wage as a good cabinet-maker earns per hour. We now have a brief respite, and as it is nearing five o'clock we hope to be able to complete the post-bag, when another visitor appears about some lantern work. Having satisfied our friend, and with the order given that we can see no one else, we buckle to and make up for lost time, conscious that if our visitors are not satisfied with our afternoon's work, we are.

—♦♦♦—
 "AMATEUR PHOTOGRAPHER" 1891 PRIZE SLIDES.

Nov. 2.—Belfast	Jan. 13.—Edinburgh Phot. Soc:
" 6.—Carlisle	" 14.—Breachin
" 9.—Preston	" 16.—Rodley, near Leeds
" 10.—Manchester Am: Phot:	" 18.—Leeds
" 11.—Kendal [Soc:	" 19.—Sheffield (?)
" 12.—Blackburn	" 20.—Sheffield C: C:
" 13.—Liverpool C: Club	" 21.—Dewsbury
" 14.—Douglas, I. of Man (?)	" 22.—Holmfirth
" 17.—St. Helens	" 26.—Newcastle - on - Tyne (Tynesdale C. C.)
" 18.—Coventry	" 28.—Huddersfield
" 20.—Louth	Feb. 1.—Halifax
" 23.—Buxton	" 2.—Keighley
" 25.—Ashton-under-Lyne	" 4.—Cleveland C. C.
" 26.—Barrow-in-Furness	" 8.—Crewe
" 27.—Tunbridge Wells	" 9.—Wolverhampton
" 28.—Mayfield, Sussex	" 10.—Birkenhead
" 30.—Croydon	" 11.—Chester
Dec. 1.—Sutton	" 16.—East Southsea
" 2.—Normandy, Guildford	" 17.—Southsea
" 4.—Maidstone	" 21.—Rossendale
" 8.—Lewes	" 23.—Dukinfield
" 9.—Putney	" 24.—Stockport
" 11.—Richmond	" 25.—Oldham
" 15.—Faversham	" 26.—Lancaster
" 16.—Enfield	Mar. 2.—Shrewsbury
" 17.—Ealing	" 11.—Dublin
" 18.—Lewisham	" 14.—Cork
" 21.—Hastings	" 18.—Cardiff
" 22.—Brighton	" 21.—Kington (Hereford)
Jan. 4.—York	" 22.—Hereford
" 5.—Darlington	" 23.—Birmingham
" 6.—Sunderland	" 25.—Gloucester
" 7.—Stockton	" 29.—Bedford
" 8.—Whitby	April 4.—Peterborough
" 11.—Newcastle-on-Tyne	" 7.—Hull
" 12.—Leith	" 12.—Uttoxeter
" 13.—Edinburgh (afternoon show, private)	" 19.—Oxford

Note.—Anyone wishing to have the 1891 Prize Slides must at once send in their applications for any dates not allotted

BEGINNERS' DIFFICULTIES.

THE next step in printing is possibly bromide paper, and we get here a fine crop of small difficulties which are extremely perplexing to beginners. The first difficulty is exposure. This can only be learnt from experience, although the plan suggested some time back in our columns by Dr. Vos simplifies matters wonderfully. We have only space for a short summary of his method; the full text of the paper will be found in the AMATEUR PHOTOGRAPHER, vol. 8, pp. 330, 346, etc. Dr. Vos marks out, by means of an inch tape or other convenient method; a distance of 72 inches from a No. 5 Bray's gas burner, and at right angles to the plane of the flame; in conjunction with this he uses a sheet of flashed opal glass, ground on the flashed side, preferably of half-plate size. Dr. Vos says, "My *modus operandi* is as follows: Place the gelatine surface of the negative you wish to print from on bromide paper, in contact with the rough and opal side of the plaque, holding the two just before you in front of the Bray burner, and in such a manner that you will readily ascertain the distance at which you are holding it from the flame. Hold them, say, at 3 or 4 feet from the burner. Now, if the details cannot be seen, approach the light until the details *just become visible*; for example, say in a view, until the markings of a stone or brick wall, or the details of leaves, or what not, are just seen. Then for every inch distance the negative and opal glass are from the six-foot mark, when details become just visible, give one second exposure, to obtain a print on bromide paper, the distance at which you must, during exposure, hold the negative (placed in contact with the paper in a printing frame) being 2 ft. from the Bray burner. Example: Details are just seen at 2 ft. from the 6 ft. mark (that is, 4 ft. from the burner); give in this case 24 seconds exposure (there being 24 in. in 2 ft.)." This is the simplest possible method of estimating exposure we know, and after having used the same for nearly three years we are quite satisfied as to its general accuracy.

We now come to development, but before treating of this we have a word to say about the actual developer used. Hitherto ferrous oxalate has undoubtedly held the premier place, and still is generally employed. The disadvantage of the iron developer is the liability to gradual deterioration of the solution of sulphate of iron, the possibility of a deposition of ferrous oxalate, and the invariable precipitation of an insoluble precipitate of oxalate of lime when hard water is used for washing or diluting the developer. Hydroquinone has received some attention for bromide work, but it has a tendency to block the shadows which condemns it in our eyes. The developer *par excellence* for bromide work is eikonogen, and the most suitable formula we have used is that recommended by Dr. Stolze, which we give below.

We now return to ferrous oxalate development, and must treat of the developer. In the first place never use so-called saturated solutions of oxalate or iron, but use a definite strength solution, thus use 16 oz. of oxalate and 48 oz. of distilled water, allow to dissolve by constant agitation, and make distinctly acid with sulphuric or oxalic acid; if too much acid be added, ferrous oxalate will be precipitated on making the developer. For the iron solution use 1 oz. of sulphate of iron, free from brown adherent powder, and 2 oz. of water, and acidify with a drop or two of sulphuric acid, add the acid to the water made hot, and pour on the iron and dissolve by agitation. The proportions in which the developer should be mixed depend a great deal upon the character of the negative and the duration of exposure, but a proportion of one of iron to six of oxalate will be found about right for the general run of work, with

the addition of a little bromide of potash, about two drops of a 10 per cent. solution to every ounce.

Under-exposure and the use of too much bromide tend to greenish-black tones and blocking of the shadows before detail is obtained in the high lights, whilst over-exposure gives grey flat pictures without contrast or rich blacks.

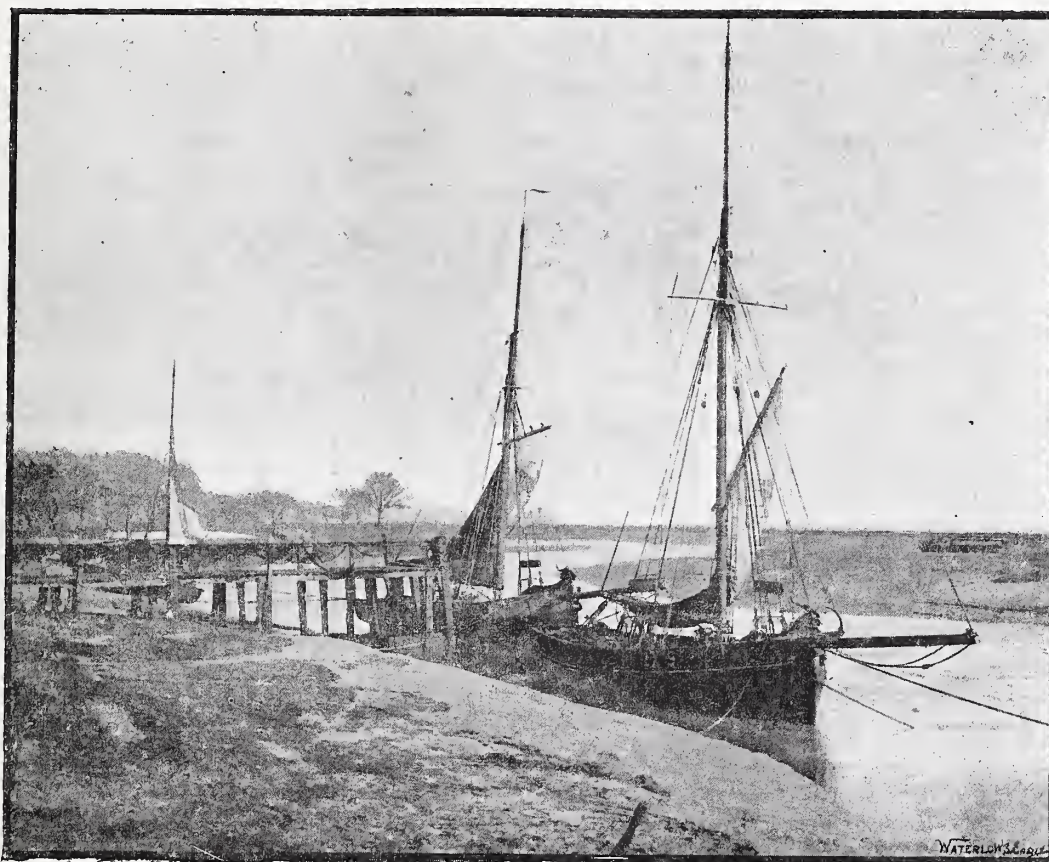
When development is complete, place the print in the clearing bath, and allow it to remain for at least ten minutes, and then pour the clearing bath off and apply fresh, and repeat the operation in ten minutes, then wash well for half an hour in running water and fix. Insufficient use of the clearing bath causes yellow patches, whilst in-

The eikonogen developer we have found so suitable is—

(A.)				
Sodium sulphite ..	..	..	..	300 gr.
Eikonogen ..	..	..	..	60 "
Distilled water ..	..	..	..	10 oz.
(B.)				
Carbonate of potash ..	..	..	..	750 gr.
Distilled water ..	..	..	..	10 oz.

For negatives of normal character the above solutions are mixed in the proportion of 5 parts of A, 2 parts of B, and from 15 to 18 parts of water; for thin negatives the

"AMATEUR PHOTOGRAPHER" COMPETITION PICTURES.



A HAVEN OF REST, RYE.

By ALGERNON BROOKER.

sufficient washing between clearing and fixing causes a very faint general yellow tinge, much less pronounced at first than the previous yellow patches but becoming gradually more distinct with age.

If the acid fixing bath be used, the clearing bath may be omitted altogether, with a consequent lessening of the chances of failure. As soon as the developer shows signs of becoming muddy, it should be poured off and fresh applied, but it is advisable to expose the print to the air as little as possible while developing, or else yellow iron stains in the paper may be caused; with ferrous oxalate, absolute cleanliness is a *sine qua non*, and touching the print with a dirty or hypo-contaminated finger means an ineradicable black mark.

proportion of A is increased; for hard negatives B is increased and more water added. This gives fine rich black tones; warmer tones even to brownish black can be obtained by increasing the duration of exposure and adding from 1 to 3 drops of a 10 per cent. solution of bromide to every ounce of mixed developer. If the acid fixing bath is used after this developer, no clearing bath is required.

Hydroquinone with a caustic alkali has a great tendency to give rusty tones and to cause degraded high lights, and is by no means so suitable a developer as eikonogen.

Fey Manufacturing Company.—A demonstration on "Enlarging on Bromide Paper" will be given to-night (Friday), and upon "Lantern-slide Making" on Friday, November 13th.

GRETCHEN.

IN a queer little village high up in the Hertz Mountains (whither I had gone to photograph a rare beast), in a tumble-down XVII. century country inn, the master sitting at the door the live-long day smoking his huge German pfeife, whilst his homely, honest frau did most of the work—standing in a strange old panelled room, half bar, half kitchen, with hams and sausages (*blondes et brunettes*) dangling from the ceiling; in the midst of the beer glasses, all sorts and shapes, her companions a couple of blue-coated soldiers and half a dozen fat farmers, a pair of long-bodied, crooked legged Dachshunds, suggestive of the sausages hanging above their heads, and a huge, spotted boarhound—there I first met Gretchen.

Gretchen liebchen.

* * *

What a picture she made as she stood there in the sunlight, and later on at my sitting-room door, with her long golden hair hanging down her back in plaits, and those blue, innocent-looking eyes watching "der Engländer" as he carefully examined his outfit in the evening, after the long, rough journey by land and sea!

A step into the room and then the little sunburnt hand touches the plate-boxes, and then those heavenly blue eyes (for we neither of us could speak more than our own language) ask what they contain, and why they are kept so carefully tied up and away from the light, and only looked at by the red-flaming lamp (she must have been peeping through the key-hole), that is nearly all I remember of the Hertz Mountains *madchen*.

Gretchen so unschuldig.

* * *

Another long journey home for "der Engländer," ten minutes in the dark-room, and then a wiser and sadder man coming out with a score of undeveloped plates which he deposits in the dust-bin with a crash; bad language filling the air, and black, evil thoughts his heart.

Alas, Gretchen! true daughter of Eve, your little sunburnt hand had opened every box by daylight to see their contents.

*

MORAL.—Don't go abroad without gum-paper, and use it on your plate boxes.

Hanover.

GAMBIER BELTON.

Letters to the Editor.

PHOTOGRAPHY AND CHEMICAL NOMENCLATURE.

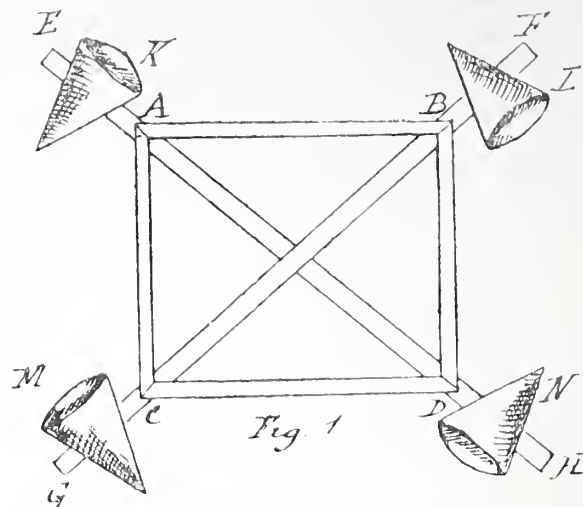
SIR,—Photographers like to call their favourite pastime an art-science, and no doubt most of us consider that it is a combination of both art and science. The claims of photography to rank as an art have often been denied, and the matter is not yet settled, but its claims as a science have been considered too secure to be seriously disputed. I am afraid, however, that if we are not careful chemists will begin to look upon us as nothing better than rule of thumb operators; and I wish you would use your powerful influence to suppress unscientific terms and contractions in our formulae. It is, no doubt, too late to get rid of words like "hypo" and "pyro," which only mean "under" and "fire," but this is no reason why we should increase this sort of expressions, for in the end our formulae would read more like the old jargon of the alchemists than anything else.

One of the commonest of these new words is "hydro," meaning "water," supposed to represent hydroquinone; now as the modern name of this substance, *vide* Watt's "Dictionary of Chemistry," is quinol, it is just as short to use this word as the above contraction. Another thing is using words like "bromide" without mentioning the salt. In fact, I might mention a large number of cases, but will not waste your space in so doing. As the foundation of photography is the science of chemistry, I do not think we ought to violate its nomenclature in the above way.—I remain, sir, yours, etc., J. G. P. VEREKEK.

A VIGNETTER.

SIR,—A most ingenious and very easily made contrivance is as follows:—

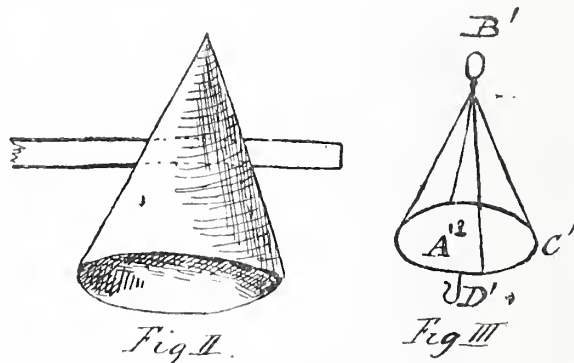
Fig. 1.—A B C D is a light frame of a size to suit the number of printing frames to be placed thereon at one time. F G and



E H, two laths placed diagonally and underneath the frame A B C D, and fastened to it. K L M N are cones made of stiff brown paper or cardboard. The joins of these should be made secure against any air being able to pass through when the machine is at work. The laths pass through the cones, and are fixed firmly to them.

Fig. 2 shows one of the cones.

In fig. 1 stout wires of equal length are fastened to A B C and D, and a swivel may be fixed at the top, and the whole hung up



somewhere in the wind and sun, when it will revolve, and very soft vignettes will result from the pictures, placed as usual in the frames with the ordinary cardboard vignetter.

Fig. 3 shows another method instead of using a swivel. A friend who told me of this apparatus made C' of a one cent piece, a current coin of Ceylon about the size of a farthing. It had a hole in the centre through which passed a wire D', with a hook at one end. Small washers were placed on the hole at the top of the cent piece to prevent the wire sticking and revolving easily. This was held up by four very stout wires, and terminated in a ring or hook, whichever is preferred, by which it was hung when at work. I do not know if this is new either, but it is easily made, and not so bulky as the roasting jack affair.—Yours truly,

CENTURION.

Colombo, September 19th, 1891.

* * *

GERMAN CUSTOMS AND DRY PLATES.

SIR,—The letter I wrote you, *re* photographing on the Continent, was not a reply to Mr. Mann's query, as I had not noticed any question or remarks from that gentleman, but it was to corroborate your editorial remarks of October 2nd. I shall be glad if you will kindly put the matter right with respect to Mr. Mann's query. I regret I cannot give him the in-

formation, as I have never experienced any difficulty in any way. I have never paid any duties in any country I have travelled, otherwise I should have been glad to have given him the information.—Yours faithfully,
J. R. GREATOREX.

* * * *

WANTED—A NEW PHOTOGRAPHIC CLUB.

SIR,—On enquiring of the Secretary of the Postal Photographic Club, I find that its membership roll is full, and there are several waiting for vacancies.

I propose that we start a new club for the issuing of albums once or twice a month; exchanging of prints and lantern slides amongst its members.

I propose that such a name as "The Mutual Photographic Club" should be used.

I shall be only too pleased to act as Secretary in filling the albums and attending to necessary correspondence, and will give two albums.

Should like to hear from other amateurs on this matter as to making rules, etc.—Yours truly,
THOMAS MANSELL.

Avondale, Westwood Park, Southampton,
October 26th, 1891.

* * * *

POLYTECHNIC PHOTOGRAPHIC SOCIETY.

SIR,—There was a meeting of photographers (professional and amateurs) held last Friday amongst the members of the Polytechnic, 309, Regent Street, when it was decided to form the Polytechnic Photographic Society. A secretary and committee of five were appointed pro tem. to draw up rules, etc., to be submitted at the next general meeting to be held on Friday, November 13th.—Yours, etc.,
Geo. J. GOOSE

31, St. Maur Road, Fulham, S.W. (One of the Committee).

* * * *

DEVELOPMENT.

SIR,—“Iso,” in his answer to my letter does not seem to have a word to say about eikonogen, but all his letter contains his experience with the pyro developer and hydroquinone. I quite agree with him that pyro does not produce pretty negatives, and I also think, after having used it for six months, that it does not produce good negatives of the proper density. Hydroquinone developer can be varied in almost the same way as pyro, by either adding or using less water. My object in writing was to know which developer would bring out the best negatives and positives (colour), as I am about to make some lantern slides. But I do not think pyro will suit—I think hydroquinone will be my choice. Thanking both for their answers, I remain, yours, etc.,
October 25th, 1891.

W. H. ELLIS.

* * * *

A DISAPPOINTED CRITIC ON CRITICISM.

SIR,—Referring to the criticism of his exhibition pictures by the AMATEUR PHOTOGRAPHER, Mr. Sawyer in last week's issue lays down that it is the duty of critics, “in the interests of photographic advancement,” to give “encouragement” rather than find fault, and that the present style of criticism “does much to retard the already small enough art claims of photography.” Again, “the student should be kindly led beyond his faults, instead of his budding aspirations being in the outset killed by satire.” After this, we are hardly prepared for the following criticism on landscape photography: “Look around the present indifferent show at Pall Mall. Shall I say fortunately, atmosphere is allowed by the advanced school, and the walls, as a consequence, are covered with such an array of misty mornings, foggy evenings, and divers other parts of the twenty-four hours under atmospheric conditions, all so distinctly damp, that it might not be surprising if the visitor left the room to be put straight to bed suffering from influenza.” A little further on he continues, “I consider it a great slur on us generally, that it is possible for such superficial workers (i.e. landscape photographers) to obtain reputation as

artists without knowledge, without training;” and a good deal more to the same effect.

Pretty strong this from a man who tells his critics they should

“Each small defect with regret descry,
And mark the beauties with a raptured eye.”

Surely the rules which should guide the critic in noticing one branch of photography apply equally in noticing other branches of the art. What will become of the “budding aspirations” of the landscape photographer after criticism like this? Perhaps our artist critic looks forward to a happy future when landscape photography, with its clouds, fogs, mists, water, and other abominations, will no longer be allowed to disfigure the walls of our exhibitions, and in place of portraying the beauties of nature, we shall devote ourselves to figuring out rustic clowns, posing and grinning at one another over gags and styles. After thus striking out at his critics and landscape photographers—of course with the right end of the stick, for he complains that they invariably use “the wrong end of the stick” to him—he administers a stern rebuke to the luckless judge whose “keenness of perception possibly lost me a medal this year.” After this we may well exclaim, “Hinc illæ lachrymæ”!—I am, Sir, yours, etc.,
A LANDSCAPE PHOTOGRAPHER.

* * * *

CHOICE OF LENS.

SIR,—Although the authority of Mr. E. J. Wall on photographic matters is very great, I hope I shall not be imprudent in venturing to differ from him when he recommends an amateur to buy a rapid rectilinear lens as the most useful all-round article. I have been an enthusiastic amateur photographer since I was ten years old; and, frankly, my opinion is that the rapid rectilinear is not to be compared to the single lens. The pictures done by the doublet are flat, tame, and uninteresting; those done by the single lens are brilliant, sparkling, full of depth and detail. I admit that for architectural work the single lens is somewhat out of place; but even here the curvature of the lines is more than compensated for by the brilliancy and detail of the pictures. I can show you a picture of some immensely tall buildings in Sydney, where the lines run within an eighth of an inch of the side of the plate, and the curvature cannot be detected by the unaided eye. This was done with a single lens; but I can scarcely get my friends to believe it.

As an all-round lens, useful for anything but very rapid instantaneous work, I can unhesitatingly recommend the single lens. The beginner should not aspire after a doublet. He will find its landscape pictures are not fit to be seen besides those of the single lens in the hands of a skilful operator.—I am, etc.,
October 24th, 1891.

CHARLES MACLAURIN.

* * * *

PHOTOGRAPHY AT HOME.

SIR,—Your issue of September 25th did not reach me until yesterday, and I was surprised and greatly pleased to see that the judges had decided that my pictures were worthy of your first gold medal. It is certainly a “progressive” medal, as at the first Home Portraiture Competition I was awarded a bronze medal, at your second a silver, and now a gold. Of these pictures “Fabiola” and “The Formula” were among the six that I had hung at Vienna, and “A Good Hand” was awarded a medal at Cardiff, so that your judges agreed with the others, that the pictures have merit.

We Americans work at a great disadvantage, our country is so new, so large, and our views, though grand to the eye, are few of them available for the camera, while our people have not the remotest claim to picturesqueness, while your country is made up of old and beautiful bits, and your country people have that in them that fits them naturally as camera subjects.

I have been a subscriber to your paper since it started, and congratulate you upon its success.—I am, yours, etc.,
Rochester, N.Y., October 15th, 1891.

JAMES DUMONT.

EXHIBITIONS.

SOCIETY.	Place.	Open.	Close.	Last date for sending in.	Secretary.
Phot. Soc. of Great Britain	London.	Sept. 28.	Nov. 12.	Sept. 16	H. A. Lawrance, 50, Great Russell Street, W.C.
Tunbridge Wells	Tunbridge Wells.	Nov. 25.	Nov. 28.	.....	Joseph Chamberlain, 14, Calverley Park Gardens, Tunbridge Wells.
Art Gallery Committee ...	Leeds.	Dec. 7.	Jan. 9.	Nov. 27.	Geo. Birkett, Municipal Art Gallery, Leeds.

Composition, and Light and Shade.

Selected and arranged for the use of Photographers, from "Burnet's Essays," with Introduction and Notes.

BY H. P. ROBINSON.

CHAPTER XVIII.

WHEN a shadow is carried through the middle of the picture, we have not only an opportunity of giving a breadth of effect, but the receding portion of the sky, and perspective of the ground, are assisted by their sharpnesses being swallowed up in repose: see this principle noticed in fig. 41.

When the principal light is kept at one side, we have an

of the painter, we find P. Veronese, Tintoret, and others making use of the sky, or light buildings, for a principal mass in their large works, consisting of many figures. In the small works of the Dutch school we find the light upon a wall, or on the ground, or in a window in indoor subjects, the sky, etc., in open daylight, made use of for this purpose.

Gerard Dow, notwithstanding his extreme finish, contrived to preserve that breadth of light and shade, which his instruction in the school of Rembrandt had empowered him to do; and in small works this breadth of effect is the more difficult to retain, seeing that there is so little space for the middle tints, darks, lights, and reflected lights, to be observed in nature, and withal, for a certain bluntness in the outline, to prevent the several objects from looking like small models. Reynolds, in his notes to Fresnoy, to illus-

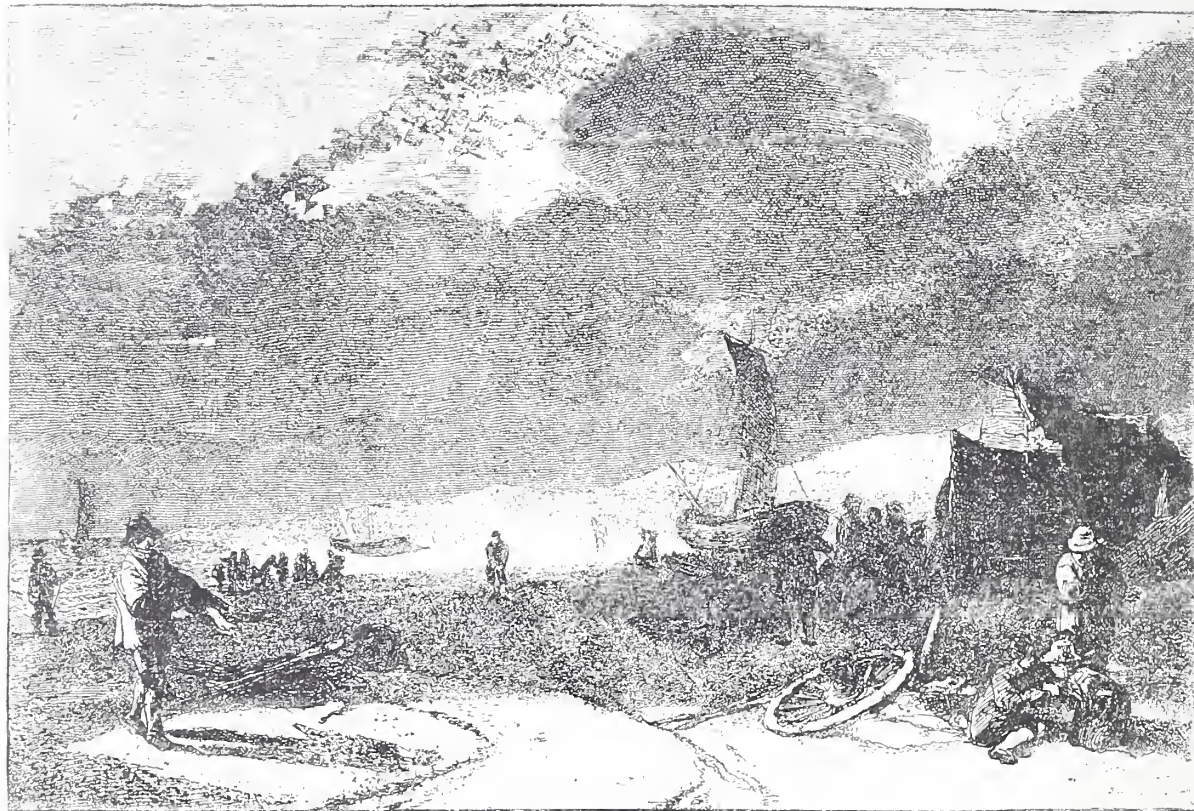


FIG. 41.—NALPE.

opportunity of introducing a larger portion of shadow than when the light is in the centre, which is often of the first consequence, especially if repose is required in the work.

When, as in fig. 42 (see next page), a multitude of small objects are introduced into a picture, or when the general arrangement consists of many figures, it is impossible to get a breadth of light and shade, unless many of them are united together of the same strength, so as to form a mass of light, or of dark; but which to do with skill is one of the greatest difficulties; for unless the science is in some measure concealed, it is no longer science. In the confusion of a battle, for example, it is unlikely that two or three white horses should be collected, so as to form a mass of light; and yet we see in Salvator Rosa, and Wouvermans this method adopted; or in a representation of dead game it is equally improbable that we should always find a swan for the same purpose, as in Weenix. To obviate such apparent artifices

trate this quality, says, "we may have recourse to Titian's bunch of grapes, which we will suppose placed so as to receive a broad light and shadow; here, though each individual grape on the light side of the bunch has its light, and shadow, and reflection, yet altogether they make but one broad mass of light; the slightest sketch, therefore, where this breadth is preserved, will have a better effect, will have more the appearance of coming from a master hand, that is, in other words, will have more the characteristic and *genere* of nature, than the most laborious finishing where this breadth is lost or neglected." One method amongst many which we sometimes find Gerard Dow adopting, so as to convey an appearance of high finishing, and yet preserve the breadth of nature, is to give the texture or surface of an object without altering the tints. For example, in painting a piece of carpet or tapestry, he seems to have laid in his broad lights and shadows, and,

while wet, applied a piece of fine cloth, so as to leave an impression of the threads over the whole, then in the high lights to have touched each thread with light, and in the shadow with dark touching, which, did the lines accord with the undulation of the folds, would have given a true appearance of the breadth and detail of nature.

The art of giving a finished look to a picture is one of the most difficult departments of painting, for under it is implied the exact strengthening of the different shades and

colours, which defines their relative situations in the picture, the introduction of and detailing the minute parts, without disturbing the great breadth of the whole, and the giving to different substances their several and proper characters. The term finish, when applied to colouring, implies giving to the representations of objects that exact tone which the objects themselves possess in nature under the same circumstances, either by repeated glazings with transparent washes, or by a careful mixture of the colours on the palette in the first instance.



FIG. 42.—G. Dow.

jects themselves possess in nature under the same circumstances, either by repeated glazings with transparent washes, or by a careful mixture of the colours on the palette in the first instance.

In adverting to fig. 43 I need merely mention the colour. The principal light is composed of the white and blue garments of Christ, and repeated in the sky, it being of the same cool tint; the warm light of the angel makes the principal for the head and hands of Christ, and is repeated by a torch carried by figures in the distance. So much cold colour being admitted on the lights requires the shadows to be kept warm, to prevent the picture from looking heavy; accordingly we find Correggio has kept the darks of a rich brown: Rembrandt, who was the master of this department of art, when his light is cool, makes his shadows the hotter the darker they become; Rubens, who formed his style of colouring upon the Venetian, seems to have been guided by the same opinion. In one of his maxims he says, "Begin by painting in your shadows lightly, taking care that no white is suffered to glide into them; it is the poison of a picture except in the lights; if ever your shadows are corrupted by the introduction of this baneful colour, your tones will no longer be warm and transparent, but heavy and leady. It is not the same in the lights, they may be loaded with colour as much as you think proper." Whoever examines the works of the great colourists will find this impasting of the lights, and keeping the shadows rich, juicy, and transparent, was their universal practice. The original of this subject, which is in the possession of the Duke of Wellington, has this character, as indeed have all the works from Correggio's own hand. Opie in his lectures gives a clear definition of Correggio's management of chiaroscuro, as follows:

"By classing his colours, and judiciously dividing them into few and large masses of bright and obscure, gently rounding off his light, and passing, by almost imperceptible

degrees, through pellucid demi-tints and warm reflections, into broad, deep, and transparent shade, he artfully connected the fiercest extremes of light and shadow, harmonized the most intense opposition of colours, and combined the greatest possible effect with the sweetest and softest repose imaginable."

In fig. 41 we have an effect of breadth always beautiful in nature or art. It is one often seen at sunset, when the sun illumines a broad space, leaving other broad masses in shadow;

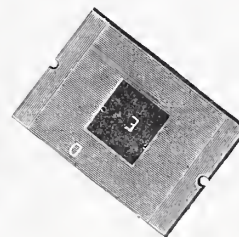
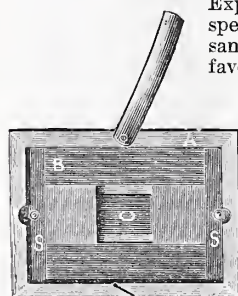


FIG. 43.—CORREGGIO.

or on sea or land, when passing clouds produce similar effects. The sense of beauty in these cases depends almost entirely on breadth. Besides breadth, there is in this illustration an example of composition which should be avoided. At the left-hand corner is an important figure almost exactly repeated as a mass by another important figure in the right-hand corner. They are principal objects of equal value placed very far apart, and divide the attention, neither is it advisable to place prominent objects so near the edge of the picture. It may, perhaps, be said that the principal figures in Correggio's famous picture (fig. 43) are also too near the edge. This is indeed true, and the effect is that the angel is drawn in a cramped position to get him into the space. In the original picture this effect is partly relieved by secondary masses formed by the dimly made-out figures of the sleeping apostles, not seen in our illustration, but which spreads many gradations of subsidiary lights throughout the space, and helps the eye to penetrate the gloom.



Wormald's Photographic Specialities.—Mr. Wormald is always busy bringing out something new. Most of his inventions have been noticed in these columns. The "Practical Index of Photographic Exposure" has gone through six editions. The special lantern masks have been sold by thousands. But the newest claimant for public favour is a "Photographic Paste," which is



used cold, and is, as a consequence, always ready. It has good adhesive qualities, is well put-up, and will be found useful to all workers in photography. Mr. Wormald has brought

out a very clever lantern-slide printing frame, which all lantern workers should see. It permits slides being printed from half-plate size or less, and the contact to be made at any part of the negative. It is sold by dealers, or by Mr. A. R. Wormald, Sutton, Surrey, at 7s. 6d.

Photographic Procedure.

By E. J. WALL,

Author of the "Dictionary of Photography."

SECTION II.—THE LENS (*continued*).

(4) *To Determine the Flatness of Field.*—The foregoing tests are quite sufficient to determine this, but if an actual illustration is required of the amount of the curvature of the field we have only to use the newspaper again, and by marking on the baseboard the focus for the centre, and then refocussing for the margins, and again marking, we can easily plot out a curve which shall show us exactly the form of the field of the lens.

(5) *The Freedom from Spherical and Chromatic Aberrations.*—The tests for spherical aberration are comparatively easy ones. A steady, naked flame, such as a candle or small gas flame, may be focussed sharply at the centre of the screen, and the image examined with an eye-piece; it is preferable to focus on a piece of plain, not ground, glass. If a halo is seen round the flame, it may be assumed that some spherical aberration is present. The objection to this method is that the fringes may not be due to spherical aberration, but to halation or ghosts. Another test, and the one I usually employ, is to affix to a window two small, dark-coloured wafers, with their edges just in contact; the camera is set up at least ten times the focus of the lens distant, and then the images sharply focussed as stated above, with full aperture; on the insertion of a small diaphragm there should be no increase of sharpness. Another method is to proceed as above, and affix to the centre of the front lens of a doublet or the centre of a single lens a piece of black paper three-fourths the diameter of the lens; the image which is now formed by the margins of the lenses is sharply focussed. The black paper is removed, and a small diaphragm inserted, and the image examined; if it requires refocussing by racking in or reducing the distance between lens and screen, the lens suffers from negative spherical aberration; if the camera requires racking out, positive spherical aberration exists.

Chromatic aberration, or practically non-coincidence of the visual and actinic foci, is rarely found in modern lenses. No lens is actually achromatic, *i.e.*, without colour, because the finest lenses corrected as much as is possible (I except here all lenses made with the Jena glass) show fringes of colour, as may be at once practically proved by any one in the following manner:—Arrange a thermometer with a naked bulb, so that a spot of light is reflected from the mercury, and focus this spot of light (the optician's artificial star) on the focussing screen of plain glass by the aid of a magnifier; on racking the camera in slightly, a faint fringe of green is seen surrounding the spot, and by racking out beyond the focus a fringe of reddish purple comes into view. This is best seen with an eye-piece. To test, however, whether the visual and actinic foci actually coincide, place the newspaper previously described squarely opposite the lens, but leaning away from it; focus sharply, with full aperture, on one particular line of type—focussing must be effected by placing the screen in the dark slide, or the fact of non-coincidence of the plane of the focussing screen and sensitive plate may cause error; then on exposing a plate, if the same line of type as focussed does not come out the sharpest, it is proved that the lens possesses a chemical focus, and we at once determine whether this is beyond or within the visual focus.

(6) *Freedom from Flare and Ghosts.*—Flare is visible as a central patch of light, and arises from an incorrect position of the diaphragm in single lenses, and from reflections from the surfaces of the lenses in doublets. To test for the same

I use the plan suggested by Mr. Debenham. A sheet of black velvet or deep red cloth is hung up in a room at night, and in front of it, at some little distance, eighteen to twenty-four inches, is placed a lighted candle. The image of the flame is sharply focussed, and there will be generally seen a halo or ring of diffused light surrounding the flame. The camera is now slightly slewed round, and the image watched; if the ring or halo of diffused light is steady at the centre of the screen, it may be assumed to be "flare;" if, on the other hand, the halo moves with the image of the flame, it is due to a secondary image or ghost very much out of focus. To actually determine this, rack the camera in or out to about half or double the focal length, when a small image of the flame will be seen surrounded by a large disc of light, the small image being the previous flare, and the halo the real image formed at the focus.

"Ghosts" are the images of a brightly lit object reflected by the surfaces of the lens on to another portion of the screen. The same may be tested for as described for flare only; the image of the candle flame should be brought to one side of the screen, and the ghost looked for on the opposite side. One or more ghosts may make their appearance and will be easily visible in this way. Practically, "ghosts" are a nuisance when photographing a dark interior which contains a brilliantly lit window, as a ghost of the window may make its appearance on the opposite side of the plate in a dark portion, and also in portraiture a white shirt front may appear duplicated.

(7) *Accurate Centring.*—To test a lens for accurate centring, it is advisable to mount the lens temporarily in the camera and focus on a naked candle or gas flame placed a little to one side, then turn back the focussing screen, and several images of the flame will be seen on looking into the camera. If the lens is correctly centred, these images remain stationary when the lens is unscrewed; if they do not, the lens should be returned to the maker.

(8) *Perfect Polishing of the Surfaces.*—This is by no means an easy test for an amateur, but it is possible to determine this by examining the surfaces with a very powerful eye-piece.

(9) *Freedom from Striae, or Waves.*—The presence or absence of these defects may be observed by holding the lens near a flame, when the waves, or striae, caused by imperfect admixture of the glass materials may be observed.

Achromatic.—This term is applied to lenses to denote that they are corrected for chromatic aberration.

Angle.—It is an unfortunate fact that the term *Wide Angle* has been applied to certain lenses, as many novices assume that "the lens is a wide angle" no matter what sized plate it is used for. Practically a lens includes a wide angle or a large amount of subject only when its focus is short, as compared to the base line of the plate with which it is used. The diagram (fig. 78) may make this clear. Let us assume that L is the optical centre of a lens of $8\frac{1}{2}$ in. focus, which will cover a half-plate, CC', including an angle of 42 deg. The same lens will also cover a quarter-plate, DD', including an angle of 28 deg.; it will also cover a whole-plate, BB', including an angle of 53 deg.; and on a 10 by 8, AA', it will include an angle of 61 deg.; and on a 12 by 10 of 72 deg.; and if

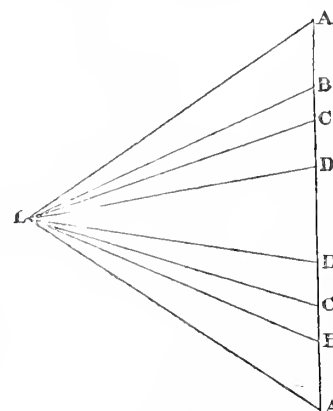


FIG. 78.

it covered a 15 by 12 it would include an angle of 83 deg. Therefore with the quarter-plate it would be a narrow angle or long focus, with the half-plate an ordinary angle, on a whole-plate a mid-angle, on a 10 by 8 a wide-angle, on a 12 by 10 a wider angle, on a 15 by 12 the widest angle. From this it will be seen that it is preferable to drop entirely the term wide angle, and I think the term "short focus" is preferable.

Mid Angle.—This is a term applied to a certain class of lens which has a focal length intermediate between the ordinary rapid rectilinear and the so-called wide angle.

Width of Angle.—The amount of subject included by a lens upon a given sized plate is usually reckoned in degrees, and this can be determined in several ways.

One of the most usual methods is by means of the plan, draw a straight line A B equal in length to the longer base of the plate used, bisect this accurately at C, from C draw a perpendicular D C equal to the focal length of the lens, connect A D, D B, then the angle included by the lens is equal to the angle A D B, which may be measured by laying a protractor on it and reading off the degrees included.

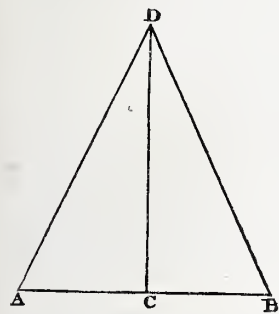


FIG. 79.

For those who may not have a protractor handy, the diagram, fig. 80, is given, which may be copied on a lantern plate, and the developed, fixed, and varnished negative used as a protractor.

The usual method employed to determine the width of

angle is to divide the base of the plate by the focus of the lens, and then refer to a table calculated for this. The one I include is that compiled by Steinheil, the optician. In column A will be found the quotient, briefly designated by $\frac{B}{F}$,

obtained by

dividing the base of the plate by the focal length of lens, and in column B will be found the angle included expressed in degrees.

As an example or two may make the use of this table plainer, we will assume that we have an $8\frac{1}{2}$ in. lens to use for a half-plate, and are desirous of knowing the angle included; then

$$6\frac{1}{2} \div 8\frac{1}{2} = .764.$$

Referring to column A we find .764, or the nearest number, and we find this to be .768, and in column B we find the angle 42 degs., the angle included by the lens. If, however, we use this lens on a whole-plate we obtain

$$8\frac{1}{2} \div 8\frac{1}{2} = 1,$$

and in the same way we see the angle is between 53 and 54 degs., or $53\frac{1}{2}$.

The question may naturally occur as to the most suitable

focal length of lens to use for every given plate, or, in other words, the best angle to include. This is determined by the angle included by the human eye, which is never more than 50 deg., and even longer focus lenses, which include considerably smaller angles, give the most pleasing results.

STEINHEIL'S TABLE OF ANGLES.

A	B	A	B	A	B	A	B	A	B	A	B
$\frac{B}{F}$	ANGLE, IN DEGREES.	$\frac{B}{F}$	ANGLE, IN DEGREES.	$\frac{B}{F}$	ANGLE, IN DEGREES.	$\frac{B}{F}$	ANGLE, IN DEGREES.	$\frac{B}{F}$	ANGLE, IN DEGREES.	$\frac{B}{F}$	ANGLE, IN DEGREES.
0.018	1	0.317	18	0.631	35	0.976	52	1.37	69	1.87	86
0.035	2	0.335	19	0.650	36	0.998	53	1.40	70	1.90	87
0.053	3	0.353	20	0.670	37	1.02	54	1.43	71	1.93	88
0.070	4	0.371	21	0.689	38	1.04	55	1.45	72	1.97	89
0.088	5	0.389	22	0.709	39	1.06	56	1.48	73	2.00	90
0.106	6	0.407	23	0.728	40	1.08	57	1.51	74	2.04	91
0.123	7	0.425	24	0.748	41	1.11	58	1.53	75	2.07	92
0.140	8	0.443	25	0.768	42	1.13	59	1.56	76	2.11	93
0.158	9	0.462	26	0.788	43	1.16	60	1.59	77	2.15	94
0.175	10	0.480	27	0.808	44	1.18	61	1.62	78	2.18	95
0.193	11	0.499	28	0.828	45	1.20	62	1.65	79	2.22	96
0.210	12	0.517	29	0.849	46	1.23	63	1.68	80	2.26	97
0.228	13	0.536	30	0.870	47	1.25	64	1.71	81	2.30	98
0.245	14	0.555	31	0.891	48	1.27	65	1.74	82	2.34	99
0.263	15	0.574	32	0.912	49	1.30	66	1.77	83	2.38	100
0.281	16	0.593	33	0.933	50	1.32	67	1.80	84	2.42	101
0.299	17	0.612	34	0.955	51	1.35	68	1.83	85	2.47	102

How It Started a Successful Society.—IX.

(Continued from page 300.)

BY A PROVINCIAL.

IN the penultimate article of this series published last week, the topics I dealt with were an extra-special lantern show, and a commemorative dinner, which we held. In this my farewell contribution I give our experiences of an exhibition of members work, which, as a one-year-old society, we organised.

Possibly many may consider that inasmuch as, to paraphrase E. B. Browning's well-worn line from "Aurora Leigh," "Of the holding many exhibitions there is no end," yet further to swell the number is not well. But such was not our opinion; our chief reason for coming to this decision being that we found with a bran-new society, as ours then was, it was greatly difficult to gauge and classify the various technical or artistic capabilities inherent in members. Opportunities for comparison are on ordinary occasions not forthcoming, because, naturally enough, amateurs are not easily induced to parade their incapacity; indeed, many will not even make public their abilities. But where an exhibition of members' works is held, a large proportion of the aforesaid difficulties are overcome. An appeal to *esprit de corps* induces the genius, "shy as musk," to bring forth his store of hidden treasures, forces the babler of vain things to show his real incompetence, and spurs the arm-chair amateur to gird up his loins, sally forth to battle with his bottles, and turn his indolent cleverness to active account. In fine, there is nothing which better enables members to find their level than a local exhibition. This I say bearing well in mind that as a general rule the awards of judges are severely criticised by some one or other.

But the executive of a society will, if reasonably intelligent, decide for themselves upon the skill and dexterity of exhibitors, and the merit of their work, and not of necessity be entirely guided by the fiat of the jury of experts.

So soon as we had resolved upon holding an exhibition, we there and then initiated certain preliminaries. Probably in no case is the advice "*Carpe diem*" more apposite than in the arranging of all things pertaining to such enterprises as the above, for at the best the managers generally find themselves engaged in a race against time.

It will, I think, be not amiss if I shortly detail our experiences, premising, however, that what we aimed at was strict economy, coupled with practical efficiency.

Our first thoughts were given to the subject of prizes. In this

we were fortunate, for to begin with, the Editor of the AMATEUR PHOTOGRAPHER was good enough to place at our disposal a silver and a bronze medal, and these were at once augmented by medals offered by the President and the Treasurer, in addition to other prizes which were contributed from amongst the general body of members.

Having arranged this without depleting our coffers (and medals, however plentiful they may seem to be, are not to be bought for nothing), we proceeded to draw up rules. As our exhibition was strictly confined to members, these were few and simple; yet, few as they were, several exhibitors failed to digest them; from which one may infer how many are deterred by long and intricate regulations from entering various competitions.

All our classes (but one) were open to professionals as well as amateurs, with the result that in only one case was a prize awarded to the former category, and even then the winner was a hybrid, being a clever amateur who had only just previously used photography as a means of money making.

In order to enable members plenty of time to get into fighting trim, we saw that our conditions of competition were posted two clear months in advance. No entry fees were charged, as we had no desire to check the "genial current" of exhibits, but rather to induce our supporters to pour forth their all.

Sometimes splendid collections of photographs are got together but are not exhibited. I mean that either the local people never hear of the show, or else are kept out by the slow shilling or even by the nimble sixpence. The public is certainly getting much more appreciative, or trying to become so, as regards all things possessing artistic attributes, but we English, as a community, hardly care to spend sixpence to see a few score prints or paintings while there are circuses at hand.

Anyhow, our Committee determined to have the show seen, come what might; and well we succeeded, much to the surprise of many wisecracks, who averred that our town folk did not care for "pictures and such like," and foretold that our display would sicken in the "cold shade of neglect."

The course we adopted was to make no charge whatever for admission; in addition to this, the exhibition was advertised in the local journals and publicly announced in the various news columns. Although no money was taken at the doors, the rooms were, of course, not thrown open to the street, admission being by ticket only. To insure that the tickets should reach as large and varied a circle as possible, in addition to such as were distributed amongst our members, we forwarded small packets of cards of admission to the managers of the several scientific, literary, social, political, and religious institutions, of which, in our town and most others, there are quite a number. The surrounding photographic societies also received tickets.

One of our greatest troubles was to obtain a bench of judges.

Many who exhibit photographs run away with the idea that somewhere behind the scenes there is chained up a pack of connoisseurs who, like famished wolves, are ready whenever they are loosened to rush at an exhibition, and worry the amateur lamb by seizing upon the medals for their own friends. The real fact of the matter is that gentlemen of experience, judgment, and status very greatly dislike the onus of giving the palm; the more so, that of late years so much mud has been thrown at judges.

By dint of plaguing everyone, I eventually, having been commissioned to do so, obtained four competent arbitrators.

Two of these gentlemen being connected with two photographic journals considerably relieved us of the fear of hostile criticism respecting the awards.

The other two were eminent specialists.

The system of judging adopted was by means of marks; and as in our case only two of the judges were in the room at the same moment, there was little likelihood of one man leading the rest by the nose, as we are told is sometimes done. I certainly think that the adoption of the mark system is also a very great safeguard against favouritism; at the same time I am by no means sure that it always results in the prize going to the best work, because, among other reasons which I cannot stop to explain, while one judge may distribute his marks with a nice discrimination of the gradation lying between the maximum and minimum of bisseale, another may make his like soot and white-wash. Thus with twenty as the highest number while the first judge may mark pictures A and B, as follows: A 18 and B 17, the second may mark them thus, A 12 and B 18; so that even if a third judge give the same marks to A and B as the first one,

nevertheless the judgment of the majority will not prevail. In fact, one may imagine a case in which the picture considered best by the majority may fail to get nearer than third or even fourth in the list.

Coming to the subject of hanging. The works were collected at our permanent rooms in advance, and were taken over to the exhibition gallery on the morning previous to the day we opened. As the owners of the hall would not allow nails to be driven *ad libitum* into the walls, we were obliged to contrive a high wooden species of dado made of a light framework of narrow lengths of deal covered with haize. This answered very well. The actual hanging was done by four or five of the committee, who, with myself, toiled hard for a day and a half; and then only by working at high pressure did we manage to get most of the prints into position by the time fixed for the judging. One would think that the above time was more than enough, but it is to be remembered that hanging does not mean merely hooking pictures on to nails; we had some hundred to deal with; these required sorting into classes, most of them needed rings, and all wanted cording. No doubt there were carping critics who pointed out how we favoured one party and wilfully disfavoured another; the truth being that we hardly looked at the prints at all, our chief aim being to get the frames hung as quickly as possible without wasteful or incongruous juxtaposition.

As some of the judges travelled down from London the executive considered that these ought to be "lunched," and no other way being feasible the President was called upon to play the part of host. Somewhat wisely, he invited his Committee to join the party, but it happened that only one of them was able to do so. Now mark the result. The President and the other member who lunched with the judges received the first and second award in the chief class! What a glorious opportunity for those whose cry is ever, "*Nous sommes trahis!*"

Fortunately, with us these were absent, but had they put in an appearance, by means of the system of marks adopted they would have been checkmated, because it could be shown that it was the marks of the judges who did not lunch which assured the medals to the above competitors.

We kept our exhibition open for three days, and on each evening had a display of members' slides by means of the optical lantern. This was pleasantly diversified by selections of music and recitations, which we took care should be of good quality. I strongly advise all concerned to, if possible, avail themselves of this valuable adjunct, although doing so involves a large amount of extra worry.

Our first lantern night was a decided success. The slides were good and sufficiently varied, the music and recitations were *hors ligne*. In our days fame travels fast, hence a full attendance became on the second night a swollen one, and not only had we to station attendants at the door of the lantern room to exclude the throng, but so many got in that some being overcome by the crowd and heat had to be helped out. On the concluding night we arranged for using a place about three times as large, which we comfortably filled.

I subjoin some figures, which may be helpful to those societies wishing to roughly count the cost of a local exhibition before initiating one. Printing, advertising, and postage were £2 10s.; wages, 17s. 6d.; hire of piano and of baize, etc., £1 10s. 6d.; timber, cord, nails, and oxygen, £1 4s. 6d.; rent of galleries, £5 5s.; total, £11 7s. 6d. Against this we obtained a guinea from a local dealer, who had a stall of apparatus, etc., thus making the net cost, say, ten guineas. For this we entertained several hundreds, if not thousands, of people, gave our society a great push forward, and were enabled to roughly classify our members according to their ability.

We could have well spent much more than we did upon the above, but it was our wish to make our townsfolk awake to the charms of photography, and at the same time to demonstrate what our young society could do without asking help from any one, and therefore the whole of the cost was made a charge upon the ordinary funds of the club. It is, however, to be borne in mind that such an exhibition as ours was cannot be run at so small an outlay unless members will take off their coats and work with muscle as well as with brain; neither will it prove successful unless the executive are unsparing in their exertions, and willing to make almost any sacrifice of time and trouble which may be called for. That is what we did, and thus it was that, though fortune so greatly favoured our efforts, we were thankful enough when the moment came to ring down the curtain.

Such, however, is by no means my frame of mind now that the hour has struck for me to make my bow to those who have, I trust, been at times entertained, if nothing more, by my reminiscences and comments. However, I am somewhat solaced by knowing that since these articles have appeared, several amateurs in various parts of the kingdom have been inspired by my experiences to follow the example I have set them, and before long I doubt not we shall hear that their efforts are bearing fruit. Providing that they have in them the organising faculty, they cannot, I feel sure, occupy their leisure more agreeably than in founding a photographic society in such districts not already provided with one; they will find, as I did, that the self-imposed task is one of absorbing interest, and the difficulties met with only like unto those pleasantly steep uplands which the hardy-limbed enjoy the toil of surmounting. If, at times, the labour is heavier than looked for, let them be sustained by the thought that they are furthering an edifying and a wholesome pursuit, fostering a love of art and a habit of scientific thought, which, added to the recreative attributes of photography, make it an invaluable resource and training to the people at large.

Besides, "Cast thy bread upon the waters" is as true now as ever. With no thought beyond establishing our society, I can in my own person testify that I have largely benefited myself in many ways which I should not have imagined possible. Now that our institution is firmly planted I almost begin to sorrow that there are no more worlds to conquer, no more uphill battles to fight; indeed, I am not sure but that under the monotonously prosperous circumstances in which our association now finds itself, I shall not have to flee from this my town and seek out some benighted place where I can once more enjoy the, to me, captivating vicissitudes incident upon Starting a Successful Society.

Thursday Evenings at the Camera Club.

BY ONE OF OUR STAFF.

SOMEBODY once said, "The rain it raineth every day." It has done so for a long time now, and the result has been a disastrous one for most social gatherings. It certainly was for the meeting of the Club last week, for though the subject was one of considerable interest, only about fifty members turned up, and small wonder, for London has seldom looked so unutterably miserable and uninviting as it did on that day. However, Mr. Lyonel Clark took the chair. None of the members had brought any objects of interest to show, probably thinking that if they had done so they might have got spoiled by the wet, and so the Chairman at once called on Mr. Sutton to give a demonstration on "Reversal." To begin with, Mr. Sutton put an ordinary negative in a printing frame and then took a rapid isochromatic plate out of a box—all in the glare of the electric light—burnt 12 inches of magnesium ribbon in front of it, then put it over the negative, closed the frame, and then exposed it to another 12 inches of ribbon. The plate was then developed with Wood's hydroquinone, normal strength, and a reversed negative was the result. In the course of his remarks, Mr. Sutton said that it had been conclusively proved that the dark streaks in photographs of lightning flashes were the effect of reversal. If they went in for experimenting on the reversal question they would learn one great lesson—not to over-expose.

Mr. Humphrey reminded the members that he once read a paper before the Club on the same subject, but since that he had had no time to continue the experiments. When he wanted a reversed negative, the process he used was an old-fashioned method. He put the negative he desired to copy in the double dark slide of his camera, with an unexposed plate next to the film, and then put the slide in the camera, which he racked out to its full length. The shutter in front of the negative was opened, and an exposure of about 30 secs. given in good diffused light. A good positive resulted. If instead of putting the plates film to film the glass of the negative were placed next to the film, a reversed positive would result and the sharpness would be so good that it would not be possible to tell which was made from the film side and which from the glass side of the negative. The reason was that by using the camera with the lens the light rays were practically parallel.

The Chairman said reversal was noticed as early as in 1839. To obtain reversals it was not necessary to expose the plate to burning magnesium wire before exposing it under the negative; a

short exposure might first be given, then under the negative, and then a final exposure, or the supplementary exposure might be given all at the end. They had to build up, as it were, enough light to cause the reversal, but it did not matter when it was done. He asked the members to give a hearty vote of thanks to Mr. Sutton. In using Mr. Humphrey's method a tube could be used instead of the lens, if desired. Mr. Sutton, in reply, said he looked at the process of getting reversed negatives from the photo-mechanical point of view, and from that point of view he did not think the process he had just demonstrated would be of much use, from its uncertainty.

Apparatus.

WRAY'S LENSES.

MR. W. WRAY, Laurel House, North Hill, Highgate, London, N., has sent us a copy of his latest catalogue. The reputation of Mr. Wray's lenses is known all over the world, and needs no comment from us, but we would call attention to the description given in the catalogue of a few of the lenses, etc., that have made Mr. Wray's name so famous as a lens manufacturer. The Iris diaphragm is fitted to many, or we believe we may say any of his lenses. "It consists of a series of thin metal plates pivoted at either end, which are caused to advance to or from the centre by the partial revolution of a slotted plate. A milled ring, having a scale of apertures engraved on it, is fitted outside of the mount, and to set it, it is only necessary to turn the ring until the number corresponding to the aperture required, comes opposite the index." Any of Mr. Wray's lenses may be had in aluminium settings. A very special line are the lenses for hand-cameras; a new series have been introduced working at $f/8$, of Jena glass, of from $3\frac{1}{2}$ to 6 in. focus. Attention should also be called to the Casket lenses, which consist of three single landscape lenses fitting one mount, having Iris diaphragm with separate scale of apertures for each lens. The mount has a sliding body for adjusting position of stop and for portability. For half-plate the lenses are $1\frac{1}{2}$ in. diameter, and of $6\frac{1}{2}$, 9, and 12 in. focus, and are sold at £6 5s. in a neat case. Adapting rings, to fit small lenses to larger flanges, are supplied in several sizes and varying in price from 2s. to 3s. 6d. The catalogue gives much very useful information, and should be consulted by all who are buying new lenses.

ILFORD GELATINO-CHLORIDE PRINTING-OUT PAPER.

We have received a sample of this new paper, and find that it works well according to the directions. In the small pamphlet issued with the paper, directions and diagrams are given for cutting the paper to the best advantage, the size of the sheet being rather larger than usual, viz., 17 by $21\frac{1}{2}$ inches. In the same pamphlet the writer says: "With regard to the use of the alum bath, I think that I may boast that the special nature of the gelatine we use will, in the great majority of cases, render such a bath unnecessary; but if it is wanted the prints should be immersed for five or six minutes immediately before toning, of course, giving a good wash afterwards." The fact of the alum bath not being necessary is not due to any special quality of gelatine, but to the very small proportion of sulphocyanide used in the toning bath, the formula for which is evidently founded on Mr. Lyonel Clark's experiments and published results, which showed that a proportion of twelve grains of sulphocyanide to every grain of gold gave the best results, but Mr. Clark found that a strength of even six grains of sulphocyanide to the ounce did not attack the chloride emulsion film. The Ilford formula is:

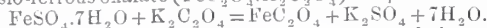
Water	16 ounces.
Sulphocyanide of ammonium	30 grains.
Gold chloride	$2\frac{1}{2}$ "

which gives a strength of under two grains to the ounce, and the older gelatino-chloride papers also proved the quality of their gelatine by not being affected when treated simultaneously with the new paper. We regret to see that the use of ordinary alum is still recommended, when we have so often called attention to the fact, first announced by Dr. Stolze, that ordinary alum tends to give yellowness in the whites. Tried against the older chloride papers, the film does not seem so thick, nor have we been able to obtain such deep rich blacks on the new paper as with the old. The paper will, however, at its price certainly hold its own against ordinary albumenised.

Quarterly Examinations in Photography.

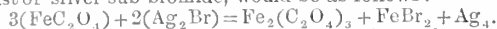
Question 10.—What are the chemical changes which occur in the formation and use of the ferrous-oxalate developer?

ANSWER.—The ferrous-oxalate developer consists of two principal components, ferrous sulphate and potassium oxalate, which when mixed in their proper proportions form an orange-coloured solution of potassio-ferrous oxalate ($\text{FeC}_2\text{O}_4 \cdot \text{K}_2\text{C}_2\text{O}_4$) and potassium sulphate



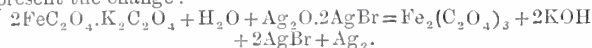
The ferrous sulphate must never be in excess of the potassium oxalate, or else ferrous oxalate will be precipitated and the developer turned quite muddy, hence the solution of potassium oxalate must never be added to the iron, but always *vice versa*.

The action of the developer on the developable image, assuming it to consist of silver sub-bromide, would be as follows:—



Ferrous oxalate + silver sub-bromide = ferric oxalate + ferrous bromide + silver.

If the oxy-bromide theory be adopted, the following might possibly represent the change:—



Potassio-ferrous oxalate + water + silver oxybromide = ferric oxalate + potassium hydrate + silver bromide + silver.

A greenish substance which crystallises out from spent ferrous-oxalate developers is known as potassio-ferric oxalate $\text{Fe}_2(\text{C}_2\text{O}_4)_3 \cdot 3\text{K}_2\text{C}_2\text{O}_4$. THEO.

Question 12.—Describe the production of a grained block.

ANSWER.—(1) A negative of the best quality, well exposed, and full of detail, is thoroughly cleaned at the back and placed in the printing frame. On this is laid a mask of thin opaque paper with an opening of the size and shape desired. Next place a piece of transparency carbon tissue upon the negative, black side next the film, put in the usual backing, fasten up the frame, and expose to diffused light. When the exposure is complete, immerse the tissue in a dish of clean cold water till it lies flat on the water. Slide under it a glass plate which has been previously prepared by coating with bichromated gelatine, exposed to light for five or six hours and dried. Lift the plate and tissue from the water, the black face of the tissue being in contact with the gelatinised side of the plate. Squeegee the back of the tissue to expel all water and air. Let the plate stand for five minutes. Then immerse in water at a temperature of 100 deg. for five minutes, and gently lift away the paper. Rock the dish in water at the same temperature for another ten minutes. Lift out the plate and lave with water until all the soluble pigmented gelatine is removed. Rinse with hot water, and finally rinse with cold, and allow to dry. This is the transparency, which may need some retouching.

(2) From the transparency, properly masked, a negative in ordinary carbon tissue is made for development upon a prepared copper plate.

(3) The copper plate having been highly polished with very fine emery powder moistened with a mixture of equal parts of vegetable naphtha and turpentine, and rubbed with clean lint till quite dry and bright, is finished, with a little washed whiting used in the same way. It is then dusted over with a mixture of finely powdered resin and asphaltum in equal parts and gently heated at about 150 deg. F. until the dust is melted just sufficiently to adhere to the copper.

(4) The carbon image (No. 2) is mounted and developed upon the prepared copper plate and dried thereon.

(5) When the carbon image is dry, the margin of bare copper is carefully covered with black varnish. When this is dry, the plate is placed in the etching fluid, consisting of saturated solution (in methylated spirits of wine) of perchloride of iron 5 oz., water 10 oz. As soon as the whole of the protected copper underneath the carbon image is discoloured by the perchloride of iron, remove the plate, wash well, and with a brush dipped in a strong solution of carbonate of soda, clean off the whole of the carbon resist. The varnish is cleaned off with turpentine, and the margin of the plate polished with fine emery cloth. MONDS.

THEO.—(11) Your village street scene is too flat and over-exposed; the other two far superior.

E. W. G. M.—(11) Your view of King's Bridge and hacks wants an inch less foreground; the others good. (10) The formula of sulphate of iron is $\text{FeSO}_4 \cdot 7\text{H}_2\text{O}$.

BRENT.—(10) See note to "E. W. G. M." (12) Your description is hardly that of a grained block, is it? See the published answer.

THE PARL.—(10) You omit equation for formation of ferrous oxalate.

PEN.—(10) See note to "Parl." (11) Your river scene is very fine. (12) Incomplete.

CREW.—(10) See note to "E. W. G. M." (11) We should have preferred a good shiny surface rather than the matt you have. "A Woodland Path" is very good, though we should have called it, "What's That?"

ENALOF.—(10) See note to "E. W. G. M." (11) "On the Avon" is fine. (12) You can hardly make a grained block as you say.

FLARE SPOT.—(10) Had you attempted to write out the equations for the formation of ferrous oxalate from the formula you give, the two sides would not have balanced; the formula for the iron is $\text{FeSO}_4 \cdot 7\text{H}_2\text{O}$, that for the potash $\text{K}_2\text{C}_2\text{O}_4$, not KC_2O_4 , as you state. (11) Your prints are the best we received, though the river scene wants two inches off foreground. (12) Woodbury's method is rarely used.

CAREAX.—(4) Good. (6) Honest at least. We do not want experience only; but formulae are not wanted either in this case. (10) Your river scene is clever, but we are a little bit tired of suggestions of things, and like to see something sharp. (12) Incomplete.

AUGESCO.—(11) Your prints show unequal toning; the bridge is good, but foreground far too white. (12) Was this too much for you?

BRUM.—(10) Incomplete. (11) Good.

FALK.—(12) Woodbury's process is not much used. (11) The print you send is good.

MONDS.—(11) Prints good.

QUESTIONS.

(For Questions 19, 20, and 21—latest day for Answers, Nov. 9—see last week's issue.)

22.—Some exposed bromide paper will be forwarded for development to each competitor, who must return the same, with a report on the artistic and technical qualities of the print.

23.—Explain the construction of the optical lantern. What is the best form of condenser?

24.—What is your idea of a perfect hand-camera?

Latest Day for Answers, November 16th.

RULES.

1. Answers must be received on the date stated each week in the AMATEUR PHOTOGRAPHER.

2. All answers must be preceded by the question, and should be written on one side of the paper only, and each answer must be on a separate sheet or sheets.

3. A *nom de plume* may be used, and must follow every answer, and be affixed to every specimen of practical work.

4. Answers are not limited in length, but preference will be given to concise answers without unnecessary amplification.

5. Those desirous of competing must apply to have their names entered. As these examinations are intended to encourage the study of the theory and practice of photography, authorities upon photographic matters and contributors to the photographic journals will not be allowed to compete.

NOTE.—No information of any kind will be given to competitors, and nothing but the answers must be included for the examiners. All other communications must be addressed to the Editor.

Marks will be given for all answers, and, when possible, the three best answers will be published. The answers will not be published till the week following receipt of the same, and the examiners will criticise each answer sent in, and when no satisfactory answer is received, will supply one. Three prizes will be awarded at the end of each quarter. (Full syllabus on application.)

All communications to be addressed:—"EXAMINATION DEPARTMENT," AMATEUR PHOTOGRAPHER, 1, CREED LANE, LONDON, E.C.

Reviews.

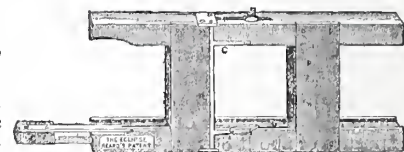
Manuel de Ferrotypie. By Henry Gauthier-Villars. Published by Gauthier-Villars et Fils, Quai des Grands-Augustins, 55, Paris. Price, 1 franc.

This little brochure in its thirty-six pages gives us a practical guide to the necessary manipulations for producing good ferro-types, and treats of the bad name which ferro-types have unfortunately gained from the inexperience and bad workmanship of operators. The complete instructions for making the collodion and collodionising the silver bath, exposure, development, fixing, and varnishing follow; and instructions are also given for making collodion positives on glass and mica, and after a careful perusal we heartily commend the work to our readers in the concluding words of the preface, "Lisez ce livre, essayez, et dites si j'ai tort."

Watkins Exposure Meter.—A correspondent in New Brunswick writes: "I should not omit the Watkins Meter, which I think worth its weight in gold. The light here seems more actinic than in England, for Mr. Watkins, in his 'Exposure Notes,' states that the paper darkens to the standard tint in two seconds exposure to June sun; while here, I have had the paper darken with me very often in half a second in June and July."

Lantern Accessories.—In these very useful adjuncts perhaps none are known better than Beard's Patent Regulator amongst lantern workers, but Mr. Beard, 62, Alscot Road, Bermondsey, S.E., has introduced another useful accessory in the Self-centering Eclipse Lantern Slide Carrier, of which we give an illustration.

This carrier, which we had the pleasure of using in connection with our last "Monday Evening" lantern demonstration, has several points which commend it to public favour. The slide is inserted at the end of the carrier and not dropped into a groove; a lever or rod takes the slide into the carrier, and another small lever presses it to the front and centres the slide. This action brings what we may call the feeding rod back into position to receive the next slide, and the motion by which the second slide is inserted in the carrier withdraws the first, giving, when carefully done, the appearance of dissolving. The carrier works easily and very quickly. When the operator is also the lecturer, the slides can be fed into the lantern with the greatest ease. We feel sure the Eclipse Carrier will have an enormous sale. It may be seen at our offices on Monday afternoons.



Exhibitions.

HACKNEY PHOTOGRAPHIC SOCIETY'S EXHIBITION.

THE first public exhibition in connection with this Society at Morley Hall, Hackney, on the 21st and 22nd inst., must be pronounced a great success. There were over 300 pictures hung for competition, and a fair number of lantern slides were also sent in. Sir Charles Russell, Q.C., M.P., opened the Exhibition on the first day, when there was a crowded gathering, and the evening was made very enjoyable by an organ recital by Mr. A. Trickett and some vocal music. Messrs. J. Traill Taylor and Andrew Pringle were the judges, and they confessed that in some of the classes their work was extremely difficult, but no fault will be found with their awards.

There were several striking pictures on the walls, all of which, however, did not secure prizes in the competition. In Class A., for the work of members only, taken since the last exhibition, F. W. Gosling had a very effective frame of hand-camera shots, two of diving and cycling being very good. James A. Sinclair took a medal for a charming set of quarter-plate views of Ghent; another frame of quarter-plate interiors by the same gentleman gave evidence of considerable care. R. Beckett took a medal for a very fine portrait. S. H. Barton's "Sundown by the Sea" was good, but his portrait, "A Child's Head," was excellent, and secured a medal. J. O. Grant's "Winter" was a view of bare trees in a warm brown, but the paper is too rough for so small a picture. A. Barker's "Waterlily Bay, Derwentwater," took the championship gold medal, and was a well-selected view of an attractive landscape. W. A. J. Hensier's "Tynemouth" was a carefully printed view of the village, but not taken from the point of view which is so well known; his "Hazelmere," "Esling Bridge," and "Ford near Porlock" were all admirable, the latter taking a medal. J. Hubert's "Story of the Saint and the Sinner," was a series of pictures illustrating the course of temptation of a dog by a chubby little child. In Class B., for members' work done before the last exhibition, A. W. Wilson took Mr. Houghton's gold medal for "On the Grand Canal, Venice," which was a most extraordinary picture, and gave rise to much curiosity and discussion. The effect was that of moonlight, the moon being above and behind one of the palaces, throwing a track of light down to the foot of the picture. On the left is a gondola with gondolier rowing, and the details in the palace are just visible. The tone is blue. The whole effect of the picture is wonderful, and the great question amongst the visitors was "How is it done?" A large portrait of a lady, and a case of panel portraits by the same exhibitor were admirable specimens of work. S. H. Barton secured the *Photography* bronze medal for a well-timed sea piece "At Kynance Cove." Dr. Gerard Smith showed a picture which he called "Sleep," showing a boy in bed with white flowers in his hand. *What* sleep it was we should not like to say, but surely the exhibition of such pictures is not evidence of the best possible taste. "Monnow Mill," by W. Wesson, showed a good picture spoilt by the large area of water perfectly undisturbed; a ripple on the water would have saved it. The exhibitor was more successful with "On the Wandle Merton," which secured the *Photography* silver medal, and really deserved it. In Class C, for pictures taken at the Club outings, the silver medal was taken by W. L. Barker for an idyllic little picture, "Young Lovers," two children standing on a rustic bridge which was shaded by the great trees on the bank of the stream. The bronze medal went to a "View on Thames," by W. Fenton Jones, showing a steamer moored near one of the wharves, and the scaffolding of the Tower Bridge in the distance. In Class G., Open Class, W. Mansfield exhibited three fine flower studies, in which the colour values were suitably rendered, but the appearance of the prints was spoilt by the tint of the mounts, which were too nearly the tone of the paper on which the prints were, causing an unpleasant sensation to the eye. A G. Tagliaferro showed five very good genre pictures. Robert Terras took the Society's gold medal for a magnificent platino-type print, "Granny's Counsel." The subject is a Scotch interior, somewhat dark, and the figures a young girl sitting down beside a table, while her grandmother gives her the following advice:—

"The rose blooms gay on cairny brae,
As weel's in hirken shaw,
And love will in a cottage low
As weel's in lofty ha."

Gae, lassie tak' the lad ye like
Whate'er your minnie say,
Though you should mak' your bridal hed
O' clean pease strae."

The composition and lighting of the picture is perfect, and strongly call to mind the work of Distin. Another picture by the same exhibitor, "Granny's Story," is not so perfect, though by no means a failure. John Stuart took a bronze medal for a picture of "The Hall, Moreton," a somewhat dim interior, lightened up by a lady wearing a light dress and sitting in the chimney corner. W. J. Byrne sent two frames, one containing thirty cabinet and the other eight panel portraits of children, which proved very attractive. H. W. Bennett's "Race Home," two sailing vessels coming home, was excellent, as was his "Moonlight Departure," another sea piece. S. Beckett's "Choir of Canterbury Cathedral," was a fine specimen of interior architecture. A pretty little river-side view was E. Spencer's "Near Topsham, Devon." Our readers will probably remember our previous notices of A. J. Jeffrey's "Essex Country Road," and "Harvest." Austin Edwards's hand-camera "Views of Niagara" were beautiful specimens of what can be done, but they were lost in the heavy gilt frames in which they were exhibited; a little more thought in the mounting would have made them perfect. A. R. Dresser's enlargement, "Ploughing," was awarded a gold medal; it is an excellent specimen of a happy shot with a hand-camera. J. H. Hogg exhibited a fine set of four 7 by 5 landscape views.

There were a large number of pictures not for competition, including R. W. Robinson's "Artists at Home" and other pictures, W. W. Winter's Crystal Palace medal pictures, prints by Mrs. Blake, beautifully finished in water colour with the air brush, Mr. Bhedwar's "Feast of Roses," Mr. Burchett's "Man in Armour," and "La Belle Bretonne."

In the Stereoscopic Class Mr. W. Taverner was awarded a prize (a pair of lenses, presented by Mr. H. Crouch). The other awards were—Members' Lantern Slides, silver, W. Taverner; bronze, Mr. Dando. Open Lantern Class, silver, W. Taverner; bronze, J. E. Austin.

There was a large show of apparatus by Messrs. Watson and Son, Wormald, T. and H. Doublet, Adams and Co., Platte and Witte, and the Autocopyist Co.

On Thursday evening there was a crowded reception to meet Captain Abney, who presented the prizes to the successful competitors. There was also a lantern show, and organ recitals by Mr. Fenton Jones and Mr. A. S. Marks.



Societies' Meetings.

Birmingham.—The society had another of its special lantern nights on the 21st inst., Mr. J. Harrison, F.G.S., in the chair, when Mr. A. W. Wills, J.P., gave a most interesting and instructive lecture on "Burmah and its People," illustrating the same with lime-light views from negatives taken during his travels. The lecture was listened to with marked attention, and the applause testified to the general merit of the slides, which showed most completely the manners and customs of the people and also their temples, gods, etc., and the general characteristics of this beautiful country. Mr. E. H. Jacques manipulated the lantern. Upwards of 300 members and friends attended. The society is to be congratulated on having a most successful meeting.

Brechin.—The annual lantern exhibition was held on the 21st October. The hall was crowded to excess. The first part consisted of the lecture-set "1,000 Miles up the Nile," followed by a selection of the members' own work, and dissolving effect slides. Wm. Shaw Adamson, the President, occupied the chair, and A. R. McLean Murray, F.E.I.S., gave the descriptive lecture in a manner which left nothing to be desired. The lantern was under the charge of Messrs. Dakers and Innes. The admission was by free ticket, and a collection was taken at the door amounting to £9 7s. 6d. This has been the most successful exhibition given by this society. Great interest is taken in its work by the townspeople, of whom one-tenth witnessed this exhibition.

Cardiff.—The winter session opened on the 23rd inst. with a large attendance. The "Photography" hand-camera pictures were passed round for inspection. Next Friday evening Mr. T. H. Faulks will give a demonstration on "Gelatin-Chloride Paper."

Croydon.—The regular fortnightly Monday evening meeting was held on the 26th inst., the President (Mr. H. Maclean, F.G.S.) in the chair. Mr. Harry Letts and Mr. James Packham were elected

members. Mr. Brown exhibited a set of six prints with which he obtained a bronze medal in a recent competition; two of these were from negatives taken on a club excursion. A resolution was adopted requesting the Council to consider the feasibility of holding an exhibition in 1892. The optical lantern was then operated by Mr. White, and several hundred slides projected on to the screen, the contributors being Messrs. Oakley, Brown, Cheshire, Isaacs, Samson, and White. There was a good attendance, and the proceedings were prolonged by the large number of slides shown until nearly eleven o'clock. The next meeting is on Monday, 9th November; subject, "Transparencies," by Mr. C. F. Oakley.

East London.—General meeting held at new head-quarters, No. 17, Norton Folgate, E.C., on Monday, the 19th inst. In the absence of the President, the chair was taken by Mr. E. Stone, Vice-President. In consequence of Monday evenings being inconvenient to some of the members, it was decided to alter the meeting nights from first and third Mondays to the first and third Tuesdays in the month. The first annual exhibition will be held at headquarters on Tuesday, November 17th, when several prizes are to be competed for, by work done during membership, in the following classes:—Class A, Landscape and marine views; Class B, Groups and portraiture; Class C, Instantaneous work; Class D, Architecture. An exhibition of lantern-slides, enlargements, and copying will be held during the winter months.

Glasgow and West of Scotland.—On the 19th inst., in connection with the Glasgow and West of Scotland Amateur Photographic Association, the opening monthly meeting for the session was held in their rooms. There were eleven gentlemen proposed for membership and unanimously elected. Mr. John Morison, jun., President, in his opening address, referred to the late exhibition in the Fine Art Institute, and congratulated the society on its great success. A discussion was initiated by Mr. Wm. Goodwin, hon. secretary, on "Printing and Toning." The proceedings were brought to a termination by the usual exhibition of optical lantern slides.

Ireland.—A technical meeting was held on the 22nd inst., Mr. Geo. Mansfield, President, in the chair. There was an exceedingly large gathering of members and friends as well as of the ordinary public attracted by the announcement of a lecture and demonstration on "Printing-out Papers and Lantern Slide Making" by Mr. John Howson. Mr. Howson gave a practical and instructive demonstration of toning, fixing, and finishing prints on the new printing-out paper. He also gave an exhibition of making slides on Alpha plates, and succeeded in successfully developing all together in one dish with one developer (hydroquinone) four slides that had received varying exposures of four, eight, and twelve seconds, and one had simply been placed in front of a wax vesta which was allowed to burn out. In the resulting slides there was not a particle of difference.

Isle of Thanet.—A meeting was held at Ramsgate on the 21st inst., to inaugurate the fourth session of this society. The annual report and balance-sheet were adopted, and officers were elected for the ensuing year. The balance in hand from last session was voted to the purchase of an enlarging lantern for the use of members, and in order to stimulate them to greater energy in this branch, it was decided to hold a competition in bromide enlargements toward the close of the session. A lantern-slide competition was arranged for February next.

North Kent.—A meeting of this society was held on the 22nd inst., Mr. J. C. Johnson, J.P., in the chair. The evening was devoted to lantern slides, a set having been kindly lent by the Editor of the AMATEUR PHOTOGRAPHER, which was much enjoyed by the members.

North Middlesex.—The last meeting was on the 26th inst., Mr. F. W. Cox in the chair. Mr. T. F. Smith, F.R.M.S., delivered a lecture on "Micro-Photography," and entered fully into all details of the science, and, demonstrating with the apparatus as he went along, showed how to place the flame of the lamp, flat or edge-ways according to the focus and angular aperture of the objective employed, as also how to centre the light. He proceeded to make several negatives, using isochromatic plates for the purpose. The demonstrations having been completed, about eighty slides of Mr. Smith's making were thrown upon the screen, and were thoroughly explained by Mr. Smith. Amongst them were—bacillus anthracis, Koch's comma bacillus, the tubercle bacillus, the microbe of leprosy, the microbe of caries of teeth, and about twenty other specimens of a similar nature. The other objects were diatoms and specimens of insect and vegetable structure. The next meeting will be a lantern evening on November 9th, when visitors will be welcome.

Oxford.—At the meeting held on the 20th inst., the usual business was transacted. Mr. J. Bretland Farmer, M.A., Fellow of Magdalen College, Mr. F. J. Gadney, Mr. J. Squire, Mr. R. A. R. Bennett, B.A., Magdalen College, and Mr. J. F. Burnett, F.C.S., were elected members. Mr. W. J. Williams resigned, as he is leaving Oxford. A special meeting then took place, to revise the rules.

Richmond.—There was a good attendance at the meeting on the

23rd inst. Mr. Cembrano, the newly elected President, was in the chair, and from the comparatively minor matter of "Backing Plates" an interesting and useful discussion on the theory, causes, and prevention of halation was evolved. Mr. Davis opened the ball, showing three church interiors taken on plates backed with red paper squeezed on with glycerine, one (comprising a west window of coloured glass with the sun on it) showed very little halation, while the other two were halated to a perfectly shocking degree. Mr. Kidd attributed the extent of the halation of these partly to under exposure and partly to the developer used (eikonogen) being too vigorous. He then experimented on one of the plates, and succeeded in considerably lessening the mischief by rubbing down with alcohol. Mr. Ardaseer clearly explained the theory of halation and of the preventive effect of backing the plate with a substance which should reflect no rays, or such only as are innocuous. The President gave the result of experiments made by different workers with backed and unbacked plates, and with plates backed with various substances as paper, burnt sienna, and dextrine, collodion stained with aurin, and caramel, of which caramel was claimed to be the most effectual. Several other members took part in the discussion. To give a practical turn to next week's discussion on "Flash-light Photography," the President promised to take a flash-light photograph of the members present.

Sheffield Lantern Soc.—An exhibition of lantern slides was given under the auspices of this Society, Oct. 19th, in the New Connexion School Room, Eldon Street, to a large number of members and friends. Mr. H. M. Smith first gave a full and detailed description of the Kodak hand-camera and its latest improvements. A number of slides made from the film negatives of the Kodak were then put upon the screen. They embraced a large variety of subjects. Mr. Frith, the Secretary, then put upon the screen some very fine views of North Wales lent by one of the members, which proved to be fine specimens.

Southsea.—At a meeting held on the 21st inst., Mr. A. West exhibited some lantern-slides, including a series of scenes from the nautical farce, "The Sons of Neptune," taken on board H.M.S. *Minotaur*. Mr. Ward showed slides of the ships composing the French and English fleets at Spithead, taken this summer during the visit of the former to Portsmouth. New members: Alderman Ellis, J.P., and Colonel Kennedy.

South Hornsey.—At a meeting held at Morris's Room, 8, Station Road, Finsbury Park, on Wednesday, the 7th inst., it was unanimously resolved to form a camera club for the neighbourhood of South Hornsey, the name chosen for the same being the South Hornsey Photographic Society. The rules to be in force during the ensuing season were drawn up, one of the most important being that amateurs and persons intending to study photography as a pastime would alone be eligible for membership. The following officers were then duly elected, and will hold office till October next, viz.:—Chairman, Mr. P. A. Legge; Vice-Chairman, Mr. D. B. Harrower; and Secretary and Treasurer, Mr. H. A. Rutt. The election of the Council was unavoidably held over till the next meeting. The Secretary's address is 2, Alexandra Road, Finsbury Park, to whom intending members should apply. At a subsequent meeting held at the above temporary premises on the 23rd inst., Mr. P. A. Legge in the chair, some technical business, including the election of a provisional Council, was gone through. The Vice-Chairman, Mr. D. B. Harrower, then read a paper on "Bromides," which contained some very valuable hints, and he afterwards handed round some prints to illustrate his remarks, which were much admired. The next meeting will take place November 12th.

Torquay.—The general meeting was held at Torquay on the 20th inst. Rules amended, election of officers and committee. President, E. Vivian, Esq., M.A., J.P.; Vice-President, A. R. Hunt, Esq., M.A.; Treasurer, H. C. Howell; Hon. Sec., Geo. Edwards. The society numbers fifty-three members. During the year nine monthly meetings have been convened, at which the following subjects have been dealt with:—"Hand-Camera Work," lecture, W. D. Welford; "Practical Development," the Committee; "Thirty Years of Photography," a paper, the Vice-President; "The Forth Bridge, lantern lecture, R. C. Reade, C.E.; "Printing and Toning," a paper, the Vice-President; "Platinotype," a paper and demonstration, the Hon. Secretary; "Lantern Night and Exhibition of Members' Slides," "Enlargement," a paper and demonstration, Dr. Fulden Briggs; "Flash-light Photography," demonstration, the Hon. Secretary. This association has decided to become affiliated to the Photographic Society of Great Britain. It is probable that a studio and dark-room will be thrown open for members' use, and that weekly meetings will be established for the instruction of beginners. The monthly meetings will be held on the third Wednesday in the month. The Secretary acknowledges the receipt of AMATEUR PHOTOGRAPHER, which is sent every week for use of this society.

Tunbridge Wells.—On the 24th inst. the members met in full force to witness a demonstration by Mr. W. Stocks, of Rye, the inventor and patentee of a new oil lamp for the optical lantern. It

was exhibited in a new lantern of special construction, made expressly for the inventor. It was the first one made, only reaching him in a finished state that morning before he left for Tunbridge Wells. The lamp gives a magnificent white light, and has four wicks; the chimney has a rack and pinion, which by means of a key can be raised or lowered, the draught being accurately regulated by it. The reflector is placed differently to the ordinary lamps, and is outside the combustion chamber, and can be placed in exact focus with the condensers. These are well protected by the draught which passes through the perforations in the lantern and prevents the heat from the lamp cracking them. The glass which covers the combustion chamber is annealed very thin, yet quite safe from the heat. A perforated screen adds to the steadiness of the flame by breaking up the current of air as it enters the back of the lantern. The inventor had placed several sight-holes for the purpose of viewing the flame from the wicks, which were a great improvement to the ordinary ones. The Hon. Secretary had brought a lantern of the ordinary type to test the strength of the new light, and it certainly was a much stronger light. A great many slides were passed through the lantern, which were brought for the purpose by the members. Mr. Stocks gave a descriptive account of his experiments with the different forms of lamps before he successfully found out that the style he has patented gave the best result.

Wigan.—The annual meeting was held on the 22nd inst. at St. Michael's Schools, when the Hon. Secretary and Treasurer presented the annual report and balance-sheet for the year just ended. From the former it appears that the society commenced its existence on the 2nd of October^s last year, when fifteen gentlemen assembled, and decided on taking the necessary steps towards the formation of a photographic society. At a subsequent meeting twenty-two gentlemen gave in their names as members, and as fourteen new members have been elected, the total membership is thirty-six. Meetings have been held once a fortnight, with an average attendance of twelve members. Three demonstrations have been given during the year, viz., by Mr. J. A. Sinclair, now of London, on "Development;" Mr. Wills (the President), on "Lantern Slide Making;" and by Mr. Wragg, on "Enlarging," and were all well attended. Several lantern exhibitions have been held during the winter evenings, including the AMATEUR PHOTOGRAPHER and "Photography" Prize Slides, which never fail to attract a large number of members and friends. The photographs contributed to the AMATEUR PHOTOGRAPHER "Inland Scenery" and "Enlargements" Competitions have been on view at the society's meetings, and attracted a large amount of attention. Excursions were made to the following places during the summer months, but the attendances were not very gratifying, the average only being $4\frac{1}{2}$ members:—Upholland, Rivington, Standish, Appley Bridge, and Lymm. The balance-sheet shows that although the subscription for ordinary members is only 2s. 6d., there is a balance on the right side, after paying all expenses. Several important alterations in the rules were proposed, which necessitated an adjournment for one month, when the officers will be elected.

West London.—An ordinary meeting of this Society was held at the Lecture Hall, Hammersmith, on the 23rd inst., when the new Aero-Carbon Incandescent Lamp for the optical lantern was shown by Mr. Poole, of the Incandescent Gas Light Co., of Westminster. Having shown a few slides through the lantern, when the purity, evenness, and steadiness of the light were remarked on by the members, Mr. Poole explained the working of the apparatus. It consists of a very portable gas apparatus, which feeds a burner fitted with a zirconium mantle, rendering it instantaneously incandescent, and giving a light of 150 to 180 candle power, at a very small cost. Ordinary house gas can be used, but the light would be much inferior in quality. The burners will last about a year. It can be seen at the Company's offices, 14, Palmer Street, Westminster, any day. The President, Mr. W. A. Brown, thought the light would be found very useful to amateurs, doing away with the dangerous oxy-hydrogen and the messy oil lamps at present in use, and would be especially appreciated by nervous and timid ladies. The President then read his address to the members, and congratulated them on the continued prosperity of the Society, which had increased its membership during the past year. They had had a most successful exhibition, which had been praised alike by the judges and the Press, and their exhibit at the Crystal Palace, in the competition for the Challenge Cup, had run the winning Society's one very close, and, in the opinion of some, had surpassed it. They had more modelled pictures in their exhibit than any other Society, and their only fault was that their pictures were too small, but if, as he proposed, the Society purchased a large camera, say a 15 by 12 for the use of the members, this fault would be avoided another year. He also referred to the question of cheap railway fares for photographers, which the Society had brought very prominently forward during the year, and regretted that notwithstanding the support they had received from the other Societies and the Press, they had been unsuccessful. They were determined,

however, to take the matter up again at some future time. Having referred shortly to the Federation Scheme, he called on all the members to work together for the common good, and to try and get new members, so that they might be in a position to acquire a home of their own, with all the comforts such a luxury would mean. They had had provided, he said, a very tempting programme for the ensuing session, but if any of them could persuade either members or non-members to offer fresh papers or demonstrations for the benefit of the Society, they could easily find room for them. He finished an interesting address by referring in very laudatory terms to the work the officers had so ably performed in the past, and was sure the Society would receive the same attention from them in the future. Mr. Whiting made some few remarks on the question of halation and the backing of plates, and exhibited a plate he had exposed for thirty seconds to lamplight, half backed and half unbacked, when the difference in results was very apparent. After some remarks by Mr. Hodges, who found that he got very little halation when using isochromatic plates, even under very trying circumstances, the subject was dropped. The lantern was then brought into acquisition, when slides by Messrs. Bennett, Chang, Freeman, Hodges, Holmes, Rogers, and Whitear, and some prize slides by Messrs. West and Sons, including some of their famous yacht studies, and kindly brought by Mr. Winter, were shown on the screen. The next meeting, a technical one, will be held on the 13th of November, and members are requested to bring any objects of interest with them, either for inspection or demonstration.

Woolwich and District.—At the meeting on the 20th inst. the AMATEUR PHOTOGRAPHER 1891 Prize Slides were exhibited to a large audience of members and friends, a very enjoyable evening was spent, several of the members expressing their high satisfaction with the good quality of the slides. Next meeting, Tuesday, Nov. 3rd, at Rectory Place Schools, 7.30 p.m.

Received too late for Classification.

Belfast (Y.M.C.A.).—A meeting was held on the 23rd inst. Mr. Howson gave a demonstration on the use of gelatino-chloride paper and lantern plates. He showed paper finished in various ways—matt and enamel surfaces—and toned prints various shades. Four "Special" lantern plates were exposed and developed. Members showed great interest in the demonstration. Meeting closed with vote of thanks to Mr. Howson.

Bury.—On the 21st inst. the annual meeting was held, the President, Mr. W. Booth, in the chair. The Secretary read the minutes, which were confirmed afterwards; he reported on the prosperous condition of the club. The election of officers and council was then proceeded with. Mr. Robert Grundy, junr., accepted the office of President; Vice-Presidents, W. Booth and C.H. Openshaw; Secretary, Roger Wood; Treasurer, T. R. Bertwistle. The newly elected President thanked the members for the honour conferred upon him, and hoped they would rally round him, attend the meetings, and not be afraid of placing questions in the box set apart for them. He promised that there should be no lack of demonstration, etc., if the members would only encourage him by their presence. He requested the members to make a good show at the exhibition to be held from November 19th to 24th.

East Southsea.—The meeting of the members was held on the 20th inst. The company were honoured by the presence of their patron, General Sir George Willis, K.C.B. Messrs. Cleminson, Mabb, Wright, I. Harding, V.C., Misslebrook, Fielder, and E. Winslade, R.M.A., showed some of their summer work upon the screen. The Secretary announced that the AMATEUR PHOTOGRAPHER 1891 Prize Slides would be loaned to the society for exhibition purposes on February 16th of next year.

London and Provincial.—October 29th, "Treatment by Development to Produce Variations in Density;" November 5th, "Development of Lantern Plates;" November 12th, "Can Halation be Avoided by Staining the Film in any Way?" November 19th, Lantern night; visitors invited.

Omega.—On Monday, 26th inst., the members gave a lantern exhibition to their friends, and many interesting slides were exhibited. Amongst those put through the lantern were a set of eighty illustrating "The White Mountains of New Hampshire," which were kindly lent to the Club by the Liverpool Society, on behalf of the Boston Camera Club. These slides were much admired.

Ulster (Belfast).—The opening meeting was held on the 22nd inst. in the large hall of the Y.M.C.A. Lecture by Mr. Lamond Howie, F.C.S., of London, "To Ober-Ammergau and Back in 1890," illustrated by 130 photographs, shown with lime-light lantern. Mr. Tate, President, in the chair. The lecture was a great success.

Pyro.—Am much obliged to "Pen" for his answer to my query. I had the so-called soda carbonate tested, and it proved to be acetate of soda; a mistake on the part of the dealer's assistant.—FLY-CATCHER.

To Correspondents.

All communications for these columns are to be addressed to The Editor, "Amateur Photographer," 1, Creed Lane, Ludgate Hill, London, E.C.

RULES.

1. Write clearly and distinctly on one side of the paper only.
2. Write each Query or Answer on a separate sheet of paper.
3. Write the name and address legibly on the back of each communication, and sign all Queries and Answers with name or *nom de plume*.
4. All matters for these columns MUST be received by TUESDAY MORNING'S POST.
5. The Editor does not undertake to answer questions by post.
6. In answering Queries, correspondents are requested to mention, in every instance, the number and full title of the query referred to.

QUERIES.

5161. **Flash-Light Photography.**—Can any reader give me a few instructions in flash-light photography? Should I require a shutter, and are the cheap flash lamps that are advertised to be relied on for a trial? Any hints will oblige.—ANATKUR.

5162. **Aristotype Paper.**—(1) Can any one tell me why my prints on Aristotype paper invariably come to perfection, and as invariably turn a fearful and mawish yellowish-brown in the fixing bath? I do exactly as directed on the paper issued by the makers, and I have used various baths, including the sulphocyanide, borax, acetate, etc., and I have never failed to get splendid purple tones in all of them, but directly the prints are in the hypo, away goes the tone and never returns. I can get a deep brown, but I want purple. Have tried Fallowfield's combined fixing and toning bath, and can get good browns, but nowhere near purple. Can any one tell me how to keep the prints the lovely colour they go in the toning bath? (2) Why does Celerotype paper curl when toning?—R. A. R. BENNETT.

5163. **Camera Bellows.**—Where could I get leather to make a camera bellows, and how much would it take to make a half-plate bellows, and what would be the price?—W. D. K.

5164. **Omnigraph Hand-Camera.**—Can any brother amateur tell me the value of Lancaster's Omnigraph hand-camera and the patent carrier attached, for ordinary work, exclusive of architecture? Also can any fellow reader send me a few sample photographs taken by this camera, which would be returned within two days after receipt? Editor has address.—R. A. W.

5165. **Enlarging Apparatus.**—Will any reader give me particulars how to make a simple and inexpensive enlarging apparatus, to enlarge half-plate negative to 12 by 10? Wanted to use by artificial light.—R. W. T.

5166. **India.**—Can any of your readers from personal knowledge recommend a 5 by 4 Kodak hand-camera for work in Madras Presidency? I have heard that the new film has often marks across it. If not a Kodak, what hand-camera can be recommended?—INFANTRY.

5167. **Lenses.**—Can any reader tell me which is the best lens for taking landscapes and distant views, etc., one that will give a large image up to three or four miles? Also one to take buildings and views within, say, quarter to half mile? All for a half-plate camera.—TCHANAK.

5168. **Printing Paper.**—Can any one tell me the best printing paper that will not fade and will keep well for the West Coast of Africa?—PHIM.

5169. **Photographing in France.**—Can any correspondent with recent experience in France, afford information as to difficulties and restrictions in use of hand-camera while cycling in Normandy? I know of the law against photographing within a certain distance of a fortified town; and I read in the *C.T.C. Gazette* of the disagreeable experiences of two English travellers near the frontier who were tried for contravention of that law; but it would be very useful to know whether this law is generally applied, and whether any preliminary precautions can be taken. Perhaps some cyclist-photographer can also tell me whether it is true that dogs are a terrible nuisance on the roads in France, and whether it is advisable to take a whip on their account?—EUREKA.

5170. **Condenser.**—Can any one tell me (1) how to make a condenser for enlarging, with concave glasses (clock faces)? (2) What is the best cement to join the glasses of a condenser together with? (3) Would a 6-in. condenser be large enough for quarter-plate?—BELGRAVE.

5171. **Photo-Mechanical.**—Can any brother amateur give me hints about copying with Mawson's photo-

mechanical plates? What is their rapidity, etc.?—F. K. P.

5172. **Tintypes.**—I am desirous to learn to work the process of "portraits finished while you wait." Should like to know if it would be best for me to buy commercially ferrotypes, and if they can be worked with the same amount of confidence as dry plates? What book should I buy to become a good ferrotype worker?—FERROTYPE.

5173. **Micro-Photographing.**—Can any reader of the AMATEUR PHOTOGRAPHER answer the following?—What exposure does an ordinary Ilford plate require when used with a magic lantern, 4 wicks, 4 in. condenser, and 1 in. objective? I use the objective without the tube of the microscope by fixing the objective into the camera.—G. T. R.

5174. **Platinum Toning.**—Will someone give me any hints on toning silver prints with above? I find gold slow.—F. E. P.

5175. **Black or Greyish-Black Tones.**—As I wish to obtain black or greyish-black tones with ordinary sensitised albumenised paper, would any kind reader oblige me with the formula for making the chloride of lime toning bath required for the above tones, and if the formula given is of long-keeping qualities, or if it should be made up as required? Any instructions as to the manner in which prints should be treated so as to get good tones (similar to those so common in professional photographers' establishments) I should feel thankful of, as I have never had any experience with the above-named bath.—F. W. G.

5176. **Bellows of Camera.**—The bellows of my Instantograph give way in the middle, which causes the lower part of the negative to come out quite pure glass. I sometimes raise the bellows with my hand while taking a photograph, but I more often forget to do it, and consequently the negatives are spoilt. Can any one who has suffered from this inconvenience suggest a remedy?—THE DEAR DOOKIE.

5177. **Enlarging Lantern.**—Is it possible to make an enlarging lantern with a wooden box, lamp, and camera? If so, I should be glad if any one can give me full particulars. I have heard of enlarging by daylight, but it involves a great deal of day-time which cannot often be procured. I mean enlarging on to bromide paper.—C. A. R. H.

5178. **Yellow Stains.**—Can any one tell me how to get out yellow stains from old negatives? They were developed with ferrous oxalate, and I suppose insufficiently washed after fixing.—UDNONE.

5179. **View Meter.**—Would any brother amateur who has got a view meter like the one described by Mr. E. J. Wall in his "Dictionary of Photography," and on page 276 of this paper, inform me where he obtained it, and the price?—AMATEUR.

5180. **Halation.**—Will some one kindly tell me the best way to prevent halation when photographing interiors?—F. E. P.

5181. **Lamplight Effects.**—What is the light used in obtaining the effects similar to Lydell Sawyer's pictures in the present exhibition? So far as I have gone I have obtained it with a 120 candle-power paraffin lamp, giving four minutes' exposure and winding up with about 4 in. of magnesium ribbon, but the exposure is too long for a person to remain in one position.—H. W.

QUERIES UNANSWERED.

- Oct. 2.—Nos. 5058, 5090, 5091, 5099.
 " 9.—Nos. 5110, 5113, 5117.
 " 16.—Nos. 5123, 5124, 5131, 5332, 5139.
 " 23.—Nos. 5150, 5154, 5155, 5160.

ANSWERS.

5104. **Stereoscopic Moon.**—"A. E. D." is in error in saying a true stereoscopic picture of the moon does not exist. Mr. Warren de la Rue, F.R.S., an eminent astronomer (and photographer), found out how to do it from one station point. He knew the moon was subject to a periodical motion called libration, by which, at the end of each vibration, it presents a different aspect. All that is necessary is to photograph the moon telescopically at the extremes of libration, in order to get the two perspectives for the stereoscope. I should like to refer anyone interested in the stereoscope to two papers contributed to February and March numbers of the *Art Journal* by that famous photographer, A. Claudet, F.R.S., in 1867.—T. B.

5121. **Platinotype.**—It is a little difficult to advise "Learner," as he does not say in what respect he has found the platinotype process difficult. If he will follow carefully the instructions of this Company, I think he ought, with a little practice, to find no difficulty. I have tried Pizzighelli papers and Hardcastle's, but have not got satisfactory results from either. Hardcastle's paper appears to be the same as Pizzighelli's; the directions for using it are the same. The steaming required before exposure is troublesome, and, unless very carefully done, causes unequal sensitiveness, and the sensitiveness is very much below that of the platinotype paper. My reply to his query as to mode of immersion in hydrochloric acid is that it is a departure from the directions given by the Platinotype Company, and not to be recommended. The prints do not require to be washed when passed from one hydrochloric bath to another, and ought not to be washed when passed from the developing solutions into the first hydrochloric acid baths.—C. E. F.

5122. **Celluloid Screen.**—The defect referred to by "Te Wirrimu" is inherent in celluloid screens, and no remedy has yet been provided for it, though I think, with a little intelligent ingenuity, it ought not to be very difficult to find one. I got a celluloid focussing screen, hoping to use it during a tour abroad, but from its flexible nature I found I could not rely on its keeping the true focussing plane. I took it to the manufacturers from whom I got it, and they admitted the fault, but said they could suggest no way of curing it.—C. E. F.

5133. **Alpha Paper.**—Under-exposure is the cause of the green tone that "W. H. S." complains of. A properly exposed piece of Alpha paper should, when developed, give an image of a reddish-brown. I have used the toning bath as prescribed for some months now, and usually find toning complete in ten to fifteen minutes.—ST. TUDNO.

5133. **Alpha Paper.**—The developing of Alpha paper must not be forced, and the exposure must be accurately timed by a watch, as no guess work will yield good and even-toned results. It is better to use the toning bath that the makers recommend; but the following gives excellent results:—

Gold chloride	1 gr.
Calcium chloride, crystal. ..	10 "
Water	12 to 15 oz.

This bath should be made up with warm water and used when cold.—BLISTER.

5134. **Pyro.**—There certainly is nothing wrong with the developer, and, if made up correctly, it ought to develop all right. Are you sure you exposed the plate at all? Or you may possibly have left out the pyro or the soda in making up the developer. Try it again with a plate that you know to be fully exposed.—CARBONATE.

5134. **Pyro.**—The formula recommended by Messrs. Wratten and Wainwright for the development of their plates is as follows:

A (freshly mixed).	
Pyro acid	2 gr.
Water, ordinary	1 oz.

B.	
Bromide of potassium	15 gr.
Water	1 oz.

C.	
Liquor ammonia	1 drm.
Water	1 oz.

When developing or before doing so, cover the plate with cold water for one minute, then pour off. Take 1 oz. of A, apply for one minute, now 3 minims or drops of each of B and C, return A from the plate to the cup and mix with B and C; re-apply, and you will find the image will begin to appear in about thirty seconds. You will see by this you have made some mistake somewhere.—W. H. ELLIS.

5135. **Toning.**—Wash thoroughly after printing, and in the last water put a little common salt. You will then find you will get a pleasing red-brown tone, using any ordinary bath.—PEN.

5136. **Toning.**—In reply to "A. E. P.," the formula I here give you is, I think, worth a try, viz.:

Gold chloride	1 gr.
Borax (powdered)	60 "
Water	12 oz.

Add the borax to the hot water, and when the solution has cooled down to 65 or 70 degs., put in the gold solution, when the bath will be ready for immediate use.—W. H. ELLIS.

5137. **Newman's Shutter.**—All metal inside the camera should be dead black, or else it will cause reflections on the plate.—CARBONATE.

5138. **Carbon Enlargements.**—Both are as good as each other, but if you want a number of prints enlarged, I should make an enlarged negative, and then make prints from it.—W. H. ELLIS.

5140. **Bromide Developer.**—Can be used for four or five pieces of paper if used for same hatch of prints.—CARBONATE.

5140. **Bromide Developer.**—I have found that "practical experience" is an absolute necessity in photography. Go in for it, ARTURO.

5140. **Bromide Developer.**—The hydroquinone developer will develop three pieces of bromide paper if done right off, but if once put into a bottle, it is of no use for developing.—W. H. ELLIS.

5141. **Mountant.**—"A. E. P." would find Ordish's parrot paste an excellent mountant. It is very clean and strong, price 1s. I think the address is Hatton Garden, but a good stationer would keep it.—LUX.

5141. **Mountant.**—Wormald's photographic paste is, in my opinion, the best of all mountants; it is simply perfect, smooth and limpid, cleanly, and sticks "like anything." I use it for every purpose, as well as photographs.—M. GORDON.

5141. **Mountant.**—The simplest and best mountant is starch, made with hot water as if for clear starching. Don't make too thin. Soak the prints in cold water, then press between blotting paper to remove the visible moisture, apply a coat of starch, and put the print aside until nearly dry; then apply a second coat, and mount. Dry under pressure to avoid cockling.—ISO.

5142. **Lenses.**—To ensure sharp definition, it is always better to have a lens covering a rather larger plate than required. Thus, for 7 by 5 plate, I should get a whole-plate lens. Lancaster's Silver-ring is very good. I don't think you could get a better for the price. Wray's are 25s. more.—PEN.

5143. **Enlarging.**—There is not any firm who supplies the article stated in your query, but I think any

dealers in artists' materials would make one for you.—W. H. ELLIS.

5143. **Enlarging.**—Messrs. Sharp and Hitchmough, of Liverpool, supply a "Portable Enlarging Table," price £4, if you want a complete arrangement. An ordinary easel or stand for a table, etc., could be procured from Watson's, of High Holborn, or almost any dealer.—PEN.

5144. **India-rubber Cuffs.**—Mr. J. Fallowfield, 146, Charing Cross Road, London, W.—BLISTER.

5144. **India-rubber Cuffs.**—"J. T. H." will be able to obtain all he requires at the India-Rubber, Gutta-Percha, and Telegraph Works Co., Ltd., 106, Cannon Street, E.C.—W. H. ELLIS.

5145. **Obernetter Paper.**—"North Stafford" no doubt uses the alum bath too soon, that is, before his prints are thoroughly free from hypo. What he describes most probably arises from the above defect.—J. R. GÖTZ.

5145. **Obernetter Paper.**—This paper requires a great lot of over-printing, and as it is not always necessary to use the alum bath, try a few prints without it.—W. H. ELLIS.

5146. **Reflex Camera.**—"If 'Kodak' will send an address to J. H., 37, St. James Road, Forest Gate, I shall be pleased to send particulars, and give advice that may prove of great service."—J. H.

5147. **Camera.**—McKellen's, from what I have read, seems a first-rate instrument. The patent rising and swinging front arrangement seems superior to Lancaster's or any other maker's. I can, however, speak from experience of the efficiency of Lancaster's Instantograph.—PEN.

5148. **Subject.**—You can make a good artistic subject of groups, single portraits, or landscapes, and the one most artistic is, I think, a near view.—W. H. ELLIS.

5148. **Subject.**—This query is rather vague, as the art qualities of a subject depend very much on the photographer himself. "Full Stop" will find, however, that statues and buildings, especially if they have much detail, will give very satisfactory photographs.—J. G. P. VERREKER.

5149. **Patent.**—Before proceeding to patent, make sure your article is worth it. The best way to get through all difficulties will be to see a patent agent on the matter as soon as possible.—W. H. ELLIS.

5151. **Roller-Blind Shutter, Effect of Heat and Damp.**—I had a hand-camera with roller-blind shutter in India, this last hot weather and rains. The blind was jammed more or less in the hot weather, i.e., wood-bound. During the rains it got all right. A roller-blind shutter should have its mechanism clear, and not hidden. I should not, however, recommend this pattern for the tropics, as the blind is liable to the attacks of insects, etc. If "Andrew" cares to write to me, through the Editor, I will give any further information I can.—B.

5151. **Roller Blind Shutter, Effect of Heat and Damp.**—Roller-blind shutters as usually made will not stand a hot climate. The blind of indiarubber material and the surfaces have been found to stick together in a hot climate. In some forms of this shutter the trigger is raised by a small pear-shaped ball of indiarubber; this is very likely to get out of order in refuse to work. Heat, whether damp or dry, will equally provoke the above conditions. Shutters for hot climates should have no indiarubber about them, except the inevitable ball and tube for which there appears to be no substitute.—TWENTY-FIVE YEARS IN INDIA.

5152. **Toning.**—It all depends what you call purple. As a matter of fact, the photographic purple is more of a brown colour, correctly considered. Sorry that absence from home prevents my sending you any prints to illustrate my meaning at present. I will see whether any other "brother" obliges you. If not, will try and send you some in a week or two.—PEN.

5152. **Toning.**—In answer to "P. J.," if he means what he states in his query he must be a very peculiar worker at photography to have used or tried all the baths he mentions, and not obtained the results he requires. All the baths will give purple tones in various colours, viz., the borax gives brown tones (and will not keep), bicarbonate purplish black (will not keep), tungstate purplish brown (will keep fairly well), phosphate warm purplish tones (will not keep), acetate brownish purple tones (will tone the prints better after it has been kept a long time). If you used distilled water when making the bath, this bath is the best bath for your purpose, and cannot be bettered.—W. H. ELLIS.

5153. **Nitrate of Silver.**—Do not understand query at all. What bath?—W. H. ELLIS.

5155. **Dry Plates.**—Your plates, if been exposed to light, are not of the least good, being only fit for the dust bin. There is not any way of treating them in order to make them fit for use.—W. H. ELLIS.

5155. **Dry Plates.**—You might try soaking them in Potassium bichromate 1 part.
Hydrochloric acid 3 parts.
Distilled water 100 "

for ten minutes, then thoroughly wash them and dry. They will be rather slower for this treatment, consequently give longer exposure. If this does not cure them, nothing will.—PEN.

5156. **Burnishing Prints.**—Dissolve pure Castile soap 5 gr. in 1 oz. of methylated spirit, apply to print with a tuft of wool or flannel, leave to dry. Do not

have your burnishing bar too hot, or that will cause them to strip off.—ZENRA.

5156. **Burnishing Prints.**—What you mean is called a "lubricator," generally made up of 5 gr. of Castile soap dissolved in 1 oz. of methylated spirit. Rub this over the print with a soft piece of flannel, and allow it to dry before burnishing.—PEN.

5157. **"A Guinea Itakeit."**—"The 'Itakeit' is made by S. T. Mathews and Co., of Birmingham. It is made of thin sheet iron, black japanned; measures 5 in. by 4½ by 4½ in.; lens, a single achromatic of about 4½ in. focus, and works at about f/11. The shutter is moved by pressure of the thumb. It carries on the top a magazine for 24 plates (3½ by 3½) in sheaths, but without grooves. Changing plates is effected by turning round the magazine, opening the shutter, and turning the camera upside down. Weight, without plates, 2½ lb. Acts very well in a good light, and at a moderate distance.—MONDS.

5159. **Celluloid Films, Development of.**—I answered a query similar to this some time ago, and if "Clericus" takes the AMATEUR PHOTOGRAPHER, and keeps it, as he should do, he will find the information in No. 359, August 21st, 1891, p. 136, under the heading "Eastman Films." The films may be placed face downwards in the fixing bath, care being taken that there are no air bubbles underneath.—C. E. F.

EDITORIAL.

SPECIAL NOTICE.—We are very pleased to find that replies in this column are so much appreciated, but we should be very grateful if those requiring advice would send their letters to us before TUESDAY MORNING'S post if possible. The time occupied in replying in this column is very considerable, and owing to the often late receipt of letters, many matters have to be left over each week. This we much regret.—ED: AM: PRIOR:

J. H. WOOD.—If you require the paper described at our "Monday Evening" (October 12th), write to Mr. Valentine Blanchard, 14, Findon Road, Shepherd's Bush, W.

ISO.—The Autotype Company's address is 74, New Oxford Street, W.

LEO.—The camera and shutter (1) will be found of very good quality. (2) There is hardly anything to choose between the two; the latter is more generally known.

HUGHES AND CO. (British Guiana).—The lens has duly reached us. We will advertise the same in Sale and Exchange columns, and with the proceeds execute your orders, holding the balance to your credit. We are writing you by this mail.

A. WIGGINTON.—Friming may be caused by using too cold water for washing. It may be entirely obviated by using the acid fixing bath given in our issue of 9th inst., p. 255, or by using the following alum fixing bath:

Saturated solution of alum 2½ oz.
" " " sodium sulphite 1 "
Mix, and add: 3 oz.

W. H. PRATT.—Letter by post.

SCOTIA.—The print is flat and wanting in brilliancy, possibly due to insufficient development, as when using hydroquinone the process of development has to be carried much farther than when using pyro. A better print might be obtained by using gelatin-chloride emulsion paper, such as Obernetter's (Götz, Buckingham Street, Strand) or Celototype (Blackfriars Company, 1, Surrey Row, Blackfriars). The posing is certainly not artistic, the gentleman on the right being exceedingly sly-looking from the peculiar way he has turned his eyes.

GRUYEM.—The borax hath may certainly be used several times, provided you carefully neutralise the chloride of gold by adding soda to it and by testing the bath each time before use to see that it is alkaline. The gold should be added to the hot solution of borax. Try again, and let us hear from you.

CARBON.—(1) The preparation of the printing-out platotype paper is certainly not difficult, requiring only, as every other photographic process, care and experience; the reason of your obtaining commercial paper of such variable quality is due to want of care in keeping. To obtain uniformly good results, it is necessary to keep all the print in calcium tubes to avoid damp. (2) By all means try carbon printing; sensitising the paper is extremely easy, merely floating the prepared tissue on a solution of bichromate of potash. Care has to be exercised in drying the paper, which must be done in a fairly warm room, and the exposure is, of course, a matter of experience and an actinometer. Carbon printing, taken on the whole, is not an excessively difficult process, and from the beauty of the results and the power of obtaining prints in any colour, it stands at the top of the tree in our opinion.

(3) Cloud negatives are made, we believe, by the single transfer process, using a special thin paper as support. We shall be pleased to give you any further help and to criticise your prints.

ST. BERNARD.—Letter by post.

HIBERNICUS.—(1) Do not use ordinary alum, but dissolve 1 part of chrome alum in 100 parts of water; add solution of ammonia till a permanent cloudiness or precipitate is formed, then filter; immerse the prints in this after washing for five minutes, wash well before toning, and place prints after toning in salt and

water, then fix. (2) Mr. F. J. Cobb, 3, Alhion Grove, Barnsbury, N., is the Secretary of the Holborn Camera Club, which meets at 100, High Holborn, where you would be welcome, we are sure, every Friday night at 8 p.m. (3) Kallitope is by no means difficult, and the developer is varied according to the tone required. Write to the Birmingham Photographic Company, 10, Gladstone Road, Sparkbrook, Birmingham, for their instructions. (4) Carbon printing is not difficult, but requires some work. If you like to send us a stamped addressed envelope, we will send you a card of admission to our lecture and demonstration on Nov. 9th, the subject being "Carbon Printing," when you would see the whole process.

MISS BOYNTON.—Place the varnished negative in a dish and cover with methylated spirit, rock the dish for five minutes, then gently rub the film with a tuft of cotton wool for two or three minutes, repeat the operation till the negative is entirely free from varnish.

W. D. K.—We have used one of Hockin's Desideratum single lenses for the last five years with perfectly satisfactory results. The lens we have and should recommend you to get is Hockin's Triple Achromatic 462B, of 10½ in. focus, costing 27s.

C. H. SMITH.—(1) Wall's Dictionary is published at 2s. 6d., and you will find it of great assistance to you. (2) Probably your lens would cover a half-plate with f/16. (3) The exposure would probably be about 20 sec., we should think.

REV. F. PARTRIDGE.—(1) Your woolly precipitate is carbonate of calcium and magnesium, probably; boiling hard water does not remove the whole of the earthy salts which are dissolved in it; filter out your precipitate or allow it to settle and decant the clear solution, it won't affect the developing powers. (2) The general consensus of opinion is in favour of the plates as easy to work and quite equal in rapidity to the Ilford red label. (3) To get the exact composition of the oil of cloves backing you must place a piece of glass as used for the plates in the mixture and alter the proportions till you cannot see the glass in it. (4) Discard the use of the rapid bromide paper, and use a slower paper, such as Fry's Argentotype or Morgan and Kidd's; give a proportionately longer exposure, and you will get better blacks and purer whites, as the slow paper gives sharper contrasts and less gradation, and consequently more brilliant results.

W. W. H.—Film received, and report shall follow by post.

H. H. MOSELEY.—The slides have been duly adjudicated upon; see this week's AMATEUR PHOTOGRAPHER; and the prize slides will be commented upon in the Photographic Reporter for December.

MRS. BENYON.—You can get a rough-surface paper from the Platinotype Company or the Fry Manufacturing Company. For further particulars see "Platinotype Toning," by Lyonel Clark. London: Hazell, Watson, and Viney, 1, Creed Lane, E.C.; 1s., or cloth 1s. 6d.

B.—Mr. Blanchard's address is 14, Findon Road, Shepherd's Bush, W., where you can procure his paper, etc. He will tell you as to its keeping power.

G. E. HUGHES.—We cannot comply with your request, and have written to you.

J. G. PATTERSON.—Have sent you the desired information.

FRANK E. PEACOCK.—Negatives and prints are criticised gratuitously. Entry forms for competitions have been sent you by post.

G. WHITE.—The "Monday Evening," 9th of November, on "Carbon Printing," will be quite as interesting as Mr. Blanchard's demonstration. We consist it a very great compliment that you will come nearly 100 miles to be present.

NEVILL.—(1) We should certainly recommend you to get the rectilinear. (2) You would be able to take quarter-plates with the half-plate lens and camera. (3) You would find Paget's Phoenix, at 1s. per doz. for quarter-plates and 2s. 3d. per doz. for halves, or Verel's, of Cathcart Works, Glasgow, same price, develop well with either pyro and ammonia or ferric oxalate.

BLANCHE.—Be sure your sins will find you out. Had you freed your prints thoroughly from iron salts, you would have got no blue stains. Clear your prints more and wash more.

R. TUSON.—The print of the cows shows signs of the negative not having been evenly covered with the developer; and it is over-printed. The other negative should have been taken the other way of the plate; there is too much foreground. The print is all right.

FLARE SPOT.—It was very unkind of the examiners, and they have expressed great contrition on reading your letter and answer referred to, and they have given you extra marks and promise "not to do so any more" if you'll forgive them this once.

H. H. ANDREW.—We should recommend you to take A plates abroad and use the American standard developer:

Carbonate of potash 1 oz.
" " soda 1 "
Ferrocyanide of potash 1 "
Distilled water 10 "

Use 4 oz. for half-plate.

J. H. BULLOCK.—You can obtain a good surface on prints by using emulsion paste.

White wax 50 gr.
Benzole 24 drops.
Essence of lavender 36 "
Oil of spike lavender 6 "

Melt the wax and add the other ingredients, shake a

little of the paste over the print with a tuft of cotton wool and polish with a clean piece.

ALFRED BATES.—The white spots are due to some chemical which has combined with the silver and rendered it insensitive to light. The technical qualities of the print are good, but it is, of course, only a portrait.

T. H. RUEL (St. John, N. Brunswick).—The two prints for "Inland Scenery" Competition have come safely to hand.

M. G. PEARSON.—Over-exposure and probably the hydroquinone and caustic alkali; you should try elikonogen, which gives far better results, hydroquinone and bromide will often give brown tones. There is far too broad a smile on the eldest child's face, and the two white dresses should not have been together.

ELLINOR.—(1) Very much over-exposed for the distance, whilst under-exposed for the trees. Was it developed with hydroquinone? And we should have preferred to place the figure more to the right in the deeper shadow. By all means reduce it, life is too short to print from such negatives. (2) The young lady should have been looking at "her love," and not at the camera, and there should have been no wire fencing. (3) The grazing Alderney should be printed in a very weak light or else on gelatino-chloride paper, so as to give more contrast and brilliancy. Your work shows very fair promise considering the short period you have been at it. We shall be pleased to see some more prints from you.

LENS.—You do not state the distance of separation between the lenses, but working from the figures you give us, you have made a tremendous blunder somewhere, because the distance of separation between the two lenses would be $1\frac{1}{2}$ in., which is absurd. The nearer you put your lenses together the greater the circle of illumination, and the plane of the stop should be nearer the back lens than the front. For instance, we will suppose the lenses are $\frac{1}{2}$ in. apart, then the stop should be 1 in. from the interior surface of the front lens and $\frac{1}{2}$ in. from the back lens. Your most satisfactory plan will be to temporarily mount the lens in a cardboard tube, put in a stop and alter the relative positions of the lenses till you get your plate sharply covered; even then the lens will have a chemical focus non-coincident with the visual, and you will not obtain a larger aperture than the single lens alone will give you, and the focus is far too short even for a detective camera.

Monthly Competition.

SIXTH MONTHLY LANTERN-SLIDE COMPETITION.

SLIDES have been received from the following:—

A. Thomas	Spilsby
G. Lord	Salford
A. de Levy	Manchester
G. T. White	Manchester
H. Burr	Brixton
T. Perkins	Shaftesbury
F. W. Plews	Leeds
W. McEwen	Penge
W. de M. Pennecfather	Oxford
G. Brown	Walworth
W. B. Dart	Torrington
A. Millar	Clapham
T. Glazebrook	Ashton-under-Lyne
G. Austin	Ankerley
A. P. G. Dowdall	Exeter
W. B. Cassingham	Tunbridge Wells
G. R. Betjemann	London
W. Miles	Bermondsey
Mr. and Mrs. Ellis	Crouch End
A. J. Golding	London
J. R. Radcliffe	Birmingham
W. R. Weir	Rickmansworth
W. Lamond Howie	Eccles

Sale and Exchange.

RULES.

COMMISSION.—A charge of 2½ per cent. will be deducted from all deposits whether a sale is effected or not. Minimum charge 1s.

PAYMENT.—All payments are to be by cheques or Postal Orders, made payable to **Hazell, Watson, and Viney, Ltd., 1, Creed Lane, London, E.C.**

Backgrounds.—Pair of backgrounds, interior and exterior, high-class, 8 ft. by 8 ft., on rollers, not solid; 50s. the pair; worth double. — 3, Waverhill Road, Handsworth, Staffs.

Two large backgrounds, 8 ft. by 7 ft. 4 in., in flatted oils, on linen and roller, perfectly new, painted both sides; first, with two interiors, 20s.; second, with two landscapes, 17s.; bargains; photographs forwarded. — Hare, Photographer, Sutton, Surrey.

Banjo.—Banjo, in case; cost over £5; exchange whole-plate requisites; offers? — No. 219, AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.

Cameras, etc.—Lancaster's half-plate International camera, with extras; 75s. — Particulars of White, Stores, Ardington, Wantage.

Quarter-plate box camera, slide, and focussing

screen; exchange anything useful; suit beginner. — F., 150, Oak Street, Abingdon.

7½ by 5 Spanish mahogany camera, bellows body, swing-back, drop shutter, and six double dark-slides; price £8.—No. 216c, AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.

Cameras, Lenses, etc.—Rouch's 5 by 4 camera, six double backs, Ross' R.S. lens, waterproof case; £6; or offers. — C. S., Berkshire Club, Reading.

Lancaster's quarter-plate International, two slides, lens, shutter, tripod, case, complete; no approval; bargain. — McCracken, 20, Dorville Road, Lee.

Lancaster's 1891 half-plate Instantograph camera and dark-slide, tripod, and R.R. lens, as new; bargain, 60s. 6d. — 53, Slad Road, Stroud.

Hand-Cameras, etc.—Talmer hand-camera, new, £2 17s.; Griffiths' whole lantern slide camera, 12s.; best single limelight lantern (£10 6s.), for £6 10s.; two extra large diameter long-focus lenses, fittings (£9 10s.) for £6 10s.; with lantern, £12. — Particulars, apply, Waldron, Chemist, Hanley.

Splendid detective camera, takes plates 5 by 4 (by Griffiths, Birmingham); cost 55s.; take 40s.; used only few times; approval anywhere; bargain. — Fredk. Sharpe, Church Street, Oakham.

For sale, Swinden and Earp's hand-camera, holding twenty 5 by 4 plates, very little used; price 5 guineas; cost £8.—Carter, Kearsby, Leicester.

Lanterns.—Hughes' Pamphengos lantern; what cash offers?—No. 218, AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.

Watson's enlarging lantern, 5½ in. condensers, 4-wick lamp, front lens, first-rate condition; cost £6 15s.; price £4.—Miss Payne Galloway, Thirkleby Park, Thirsk.

I wish to exchange my enlarging lantern (by Houghton and Son), 8½ in. condenser, and half-plate portrait lens, complete, cost £11 last May, for R.R. or Eury scope and other lenses, not less than half-plate, and of good make; and I will take money or camera for balance to value if necessary. — Berkeley, Duncroft Villas, Mortlake.

Binual limelight dissolving lantern, polished mahogany, and lined inside, 3½ in. condensers, mounted in brass, achromatic front lenses (throws 20 ft. clear circle), in brass sliding tubes, with rack and pinion, Place's oxyhydrogen safety jets, with spiral adjuster and lines, improved dissolver, as good as new; price £5; or exchange for half-plate camera, R.R. lenses, up to £6.—Legg and Co., Birmingham.

Lantern Slides.—Lantern slides, all best hand-painted (by Newton, Fleet Street), 16 "Mary Queen of Scots," cost £5 10s.; 8 "Babes in Wood," cost £2; 12 "Robin Hood," cost £3; also effects—2 "Lighting Beacon," 2 "Bear Hunting," 2 "Alpine," 3 "Lisbon Earthquake," the lot £8, or exchange for Kodak No. 3 or 4, or other good make with R.R. lens, with walking-stick stand, in good condition—Rectory, Bradford Peverell, Dorchester.

Lenses, etc.—Rapid rectilinear (by Beck), 12 by 10, flange, cap, and 7 stops, in case, £6; landscape 12 by 10 (by Ross), 30s.; approval; deposit. — Mrs. Benyon, Stukley Hall, Huntingdon.

Laverne's rapid rectilinear detective lens, fixed focus for all objects from 12 ft. to infinity; 20s.—Meadway, Vestry Hall, Bethnal Green.

Dallmeyer's 3½ by 6½ rapid rectilinear lens; price £5 5s.—No. 216, AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.

Whole-plate rapid rectilinear lens, with Reynolds and Branson's Phoenix shutter; cost £5 10s.; price £4.—No. 216a, AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.

Dallmeyer's 5 by 4 rapid rectilinear lens; price £3 10s.—No. 216b, AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.

Ross' triplet lens, good condition; 35s.—Maltby, 4, Clarence Street, Nottingham.

For sale, Ross' quarter-plate extra-rapid Universal lens; cost £5 10s. — Offers to Guinea, care of Editor, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C.

Negatives.—A quantity of splendid half-plate negatives, by a high-class professional photographer, showing retouching, etc.; 2s. per dozen, 6 for 1s. 1d.; sample two, 6d.; all post free. — A. Dunhill, 10, Swiss Terrace, Belsize Road, London.

Sets.—A first-class half-plate portable camera and three double backs (by Watson), capital 7 by 5 Optimus R.R. lens, Watson's patent folding stand and stout canvas case and focussing cloth; cost £12 10s.; lowest price £8.—A. Elliott, Whitecross, Hereford.

Half-plate camera (Raymond's) reversing back, two double slides (hinged shutters and openings), 7 by 5 Optimus rapid rectilinear lens, stops, stand, waterproof case; price over 8 guineas; sold £5.—Biscoe, Wheatley, Oxford.

Good half-plate set; bargain for 70s.; approval. It is Instantograph camera, slide, tripod, R.R. lens. — 3, Hawthorn Villas, Slad Road, Stroud, Glos.

Whole-plate sliding-body portrait camera and lens (Rouch and Co.), inner frames, pneumatic flap shutter, case of stops, strong tripod; 7½ by 5 folding view camera and lens, three double slides, one single, hand shutter, strong folding tripod; Watson's quarter-plate detective camera, complete, with folding tripod, nearly new, also sundry dishes, printing frames, etc.; £16 the lot, or will sell separate. — F. Morten, Warberry House, South Bank, Surbiton.

Lancaster's special patent camera, leather bellows, with three double backs, brass-bound, and in good condition, leather case, and stand; £4 15s.; or, with rapid Rectigraph lens, Iris diaphragm, £7.—No. 217, AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.

Sundries.—Manchester Oxygen Co.'s cylinders, full, two 10 ft. oxygen, 20s. each; one 12 hydrogen, 27s. 6d.; regulators if required. — Frank Lobley, Hanley, Staffordshire.

For sale, two vols. (15, 27) "British Journal of Photography," cloth; what cash offers?—Manager, Guardian Office, 135, Dale Street, Liverpool.

Starch mountant, keeps perfectly, three months; recipe, 7 stamps.—Photo, Filtress, Chemist, Crowboro' Cross.

WANTED.

Cameras, etc.—To purchase a half-plate camera and slide; no rubbish. — Particulars to Geo. Randall, High Street, New Brompton.

About whole-plate studio bellows camera, with repeating back; exchange nearly new lady's gold watch and albert, worth £6, and cash. — 3, Kent Terrace, Swanley.

Half-plate Lancaster's extra-special brass-bound Instantograph, or other good make, three double slides, turntable, camera case, no lens. — Particulars and lowest cash price to S. H. M., 7, Enbridge Street, Salford, Manchester.

Lancaster's 12 by 10 enlarging camera, cash. — H., 631, Wandsworth Road, Clapham.

Cameras, Lenses, etc.—Half-plate Instantograph camera, with rectilinear lens, Iris diaphragm, with slides and stand complete; must be cheap; will exchange good violin. — F. Jernyn Smith, 1, Market Place, Peterboro'.

Hand-Cameras, etc.—Adams' 1891 Ideal hand-camera, highest possible quality; must be cheap; approval; deposit; send returnable prints. — W., 91, Turton Street, Bolton.

Swinden and Earp's 5 by 4 hand-camera, good condition; please state lens, lowest cash price, deposit, approval. — Putland, Combe Terrace, Westcombe Park, S.E.

Lenses, etc.—Lens, whole-plate, Iris diaphragm, R.R., by leading maker. — No. 220, AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.

Negatives.—Good negatives, English or foreign places of interest, loan or purchase. — William Randall, Brampton, Chesterfield.

Sundries.—Any two consecutive volumes AMATEUR PHOTOGRAPHER, from 1890; exchange pair tumbler pigeons or Belgian hares; approval. — K. Smith, Hampnills, Watford.

Hepworth's "Book of the Lantom," or focussing magnifier, for Demon camera, etc. — Oliver, in exchange Bernard Street, Southampton.

Steel oxygen cylinder, 10 or 15 ft. capacity; must be in perfect condition. — H. S., 75, Lomplot Vale, Lewisham, London, S.E.

Half-plate camera, photographic sundries, or good lantern, in exchange for Cassell's "Countries of the World," 6 vols., bound, complete; "Our own Country," 6 vols., complete; 2 vols. Cassell's "Family," quantity other books, perfect; would give a little cash. — G. Brown, Photographer, Hstock, Ashby-de-la-Zouch.

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Anastigmatic Doublets.**

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No. 370. VOL. XIV.]

FRIDAY, NOVEMBER 6, 1891.

[PRICE TWOPENCE.]

OUR VIEWS.

"To hold as 'twere the mirror up to nature."—Shakespeare.

OUR VIEWS.—AMATEUR PHOTOGRAPHER Monthly Competition No. 30, "Inland Scenery;" List of Awards—Stereoscopic Slide Competition, Fifth Year—Work at the Camera Club—Work of Societies—Pyro and Ammonia—Lantern Slides from Birmm; Major Grant, V.C., in a Trying Situation—The Art Journal for November—Exhibition of the North Middlesex Photographic Society—Photographic Survey of the County of Staffordshire—A Camera Club for the East End—The Tunbridge Wells Exhibition—Exhibition at Leytonstone—The AMATEUR PHOTOGRAPHER 1891 Prize Slides—The Sunny South; Mr. Logsdail's Pictures at the Fine Art Society's Galleries—The High School, Glasgow, starts a Photographic Society—Co-operative Excursions to the Chicago Exhibition—Next AMATEUR PHOTOGRAPHER "Monday Evening," November 9th; Mr. Fry on "Carbon Printing"—Something New in Snap-Shots—The Chicago Exhibition; Photography to be Included—Water-Colour Pictures at Dowdeswell's Gallery.

ILLUSTRATION.—"Fishing Boats entering Whitby Harbour," by Francis G. Smart. LEADER.—Kallitpe Paper.

LETTERS TO THE EDITOR.—Choice of a Lens (E. J. Wall)—Work of Photographic Societies (H. Harvey-George)—Photograph of a Bird's Nest (John Pretwell)—South Hornsey Photographic Society (Percy A. Legge)—A Correction (W. J. Wilson)—Development (Iso)—Controlling Development (W. E. Crowther).

ARTICLES.—Photographic Procedure (Wall)—Instantaneous Photography (Harrison)—The Lantern, and How to Use It (Norton).

NOTES.—Edinburgh—Liverpool—Thursday Evenings at the Camera Club. QUARTERLY EXAMINATIONS IN PHOTOGRAPHY.

HOLIDAY RESORTS.—Isle of Wight.

AMATEUR PHOTOGRAPHER MONTHLY COMPETITION.—No. 30, "Inland Scenery." Photographs received.

SOCIETIES' MEETINGS.—Aberdeenshire—Barrow—Brighton—Cardiff—Cornish Camera Club—Douglas (Isle of Man)—Enfield—Kendal—Lantern Society—Leicester—Liverpool—Newport—Oldham—Pudsey—Putney—Richmond—Tyneside—West Surrey.

EDITORIAL DEPARTMENT.—All Literary Contributions, Queries and Answers, Photographs for Competition or Criticism, Books or apparatus for Notice or Review are to be addressed to the EDITOR, AMATEUR PHOTOGRAPHER, 1, CREED LANE, LUDGATE HILL, LONDON, E.C. (All Communications should reach the Editor on Tuesday.)

PUBLISHING DEPARTMENT.—All letters containing Subscriptions, Orders, Remittances, SALE AND EXCHANGE Advertisements, or other business matters for the AMATEUR PHOTOGRAPHER are to be addressed to the Publishers, HAZELL, WATSON, AND VINEY, LD., 1, CREED LANE, LUDGATE HILL, LONDON, E.C. (SALE AND EXCHANGE Advertisements, at the charge of Three Words for One Penny, can be received as late as WEDNESDAY MORNING.)

"Amateur Photographer" "Holidays with the Camera" Competition (Second Year)—Prizes: Gold, Silver, and Bronze Medals, and Certificates; with special prizes of "Niece" or progressive medals for past prize-winners. In all, twelve prizes will be placed at the disposal of the judges.

SUBJECTS.—All photographs are eligible that have been taken during the "Holidays," but must be landscape or sea pieces, with or without figures, views of town, photographs of cathedrals, churches, public buildings, etc., but not portraiture, figure study of pictures which could be classed as "Photographs at Home."

DATE.—All photographs must be received on or before the 31st of December, 1891. **RULES, CONDITIONS, AND ENTRY FORMS** will be forwarded on receipt of stamped addressed envelope. The application should be addressed, "HOLIDAYS WITH THE CAMERA," Editor, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C.

"Amateur Photographer" Monthly Competition No. 31—"SEA-SCAPE AND RIVER SCENERY." Latest day, DECEMBER 1ST.—Prizes: Silver and Bronze Medals, with Ribbon and Clasps. One print only to be sent in. Entry forms, etc., on receipt of stamped envelope. Address: Editor, AMATEUR PHOTOGRAPHER, 1, Creed Lane, E.C.

"Amateur Photographer" Monthly Lantern Slide Competition (Seventh)—"ARCHITECTURE (INTERIOR AND EXTERIOR)." Latest day, NOVEMBER 19TH.—Two Slides to be sent in. Entry Forms, etc., on receipt of stamped envelope. Address: Editor, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C.

Members of the Editing Staff are "At Home" on Monday afternoons from Two till Five o'clock, and they will gladly give advice upon all photographic matters.

THE AMATEUR PHOTOGRAPHER Monthly Competition No. 30, "Inland Scenery," has proved to be the largest on record, nearly 180 competitors having entered. A large proportion of the work contributed is of a high standard of excellence and far surpasses previous competitions of inland or landscape scenery. The prizes have been awarded, and two silver, two bronze medals, and two certificates have been given to the following competitors:—

First Prize (Silver Medal).

J. OSWELL BURY Wrexham,

for his photograph "On a Welsh Hill-side," a thoroughly typical scene in Wales, which will be reproduced in the *Photographic Reporter* as a frontispiece. The subject was taken on the hill-side in Llangollen Vale, with an R. R. lens, *f*/16, and half a second exposure given to an instantaneous plate, in diffused light at noon in September.

Second Prize (Extra Silver Medal).

JOHN L. MACKRELL Liverpool.

This photograph, "At Eventide it shall be Light," is a very beautiful rendering of an evening effect, and was taken with an R. R. lens, *f*/32, on two negatives, the landscape being given four seconds, and the clouds instantaneous exposure; the first at 4 p.m. and the second at 6 p.m. in August. The print is on silver albumenised paper, given a matt-surface by the use of pumice-stone.

Third Prize (Bronze Medal).

HERBERT C. BENTLEY Louth.

This competitor has for some time shown promise, and we are very pleased that he has been awarded a medal. His picture, "Virginia Water Falls," was taken with an R. R. lens, *f*/16, and 3 secs. exposure given at the end of May in fair light at 3 p.m. The print is on Dr. Kurz's paper.

Fourth Prize (Extra Bronze Medal).

JAMES A. KEASLEY Reigate.

The photograph, "Near Lake Side, Windermere," is a beautiful example of the lovely scenery of the English Lakes; the print is somewhat hard, but with that exception it gives a very faithful representation of the scene. Taken with an R.R. lens, *f*/22.3, with two seconds exposure of a slow plate on a bright day, at the end of August.

Fifth Prize (Certificate).

HARRY HOLT Liverpool.

This photograph of "The Lledr Valley, N. Wales," is well

composed and printed with much care upon gelatino-chloride paper squeezed on to ground-glass; the tone is admirably adapted to the scene; sulpho-cyanide of ammonia and gold has been used.

Sixth Prize (Certificate).

JAS. BUCHANAN YOUNG Edinburgh.

The award is made for a very capital photograph, well composed, of "The River Avon." This print is on gelatino-chloride paper, bright surface, and the wealth of detail is rendered with much faithfulness. The exposure was made in the interval between two heavy showers of rain.

There are many very admirable photographs sent to the competition. All the above will be reproduced in the *Photographic Reporter*, and two others, "Road near Evandale, St. John River," by F. H. J. Ruel, St. John, New Brunswick, and "Loch Katrine," by Miss E. Graham Stone, Willesden.

IN another column we publish a list of the Stereoscopic Slides that have been received for the AMATEUR PHOTOGRAPHER Fifth Annual Competition. We hope to be able to arrange for a Committee of the Council of the Stereoscopic Club (Manchester) to adjudicate upon the work entered for competition.

THE Committee of the Camera Club announce a full programme for November, which was commenced last Monday, "according to ancient custom," with a smoking concert. The following are the arrangements for Thursday evenings:—On the 5th, Dr. J. J. Acworth was down for a paper, "The Action of Light and Heat upon the Haloid Silver Salts;" 12th, Mr. E. J. Humphery, "A New Method of Photography by Artificial Light;" 19th, Mr. G. L. Addenbroke, "Aluminium and its Application to Photography;" 26th, Rev. F. C. Lambert, M.A., "Some Analogous Aspects of Painting, Music, and Poetry." The Monday evenings in the month are taken up with elementary lectures, and the exhibition of lantern slides; and on the Friday evenings, commencing the 13th inst., Mr. Redmond Barrett gives a course of "Lessons on Retouching." No one can say that the members of the Camera Club have any lack of practical instruction. We understand all the "evenings" are well attended, which is more than can be said of even the popular(?) lantern evenings at Pall Mall. We understand that upon the occasion of the President of the Birkenhead Photographic Society, Mr. G. E. Thompson, showing a selection of slides, there were not fifty people in the room, but what can be expected when the sitting accommodation consists of about four chairs, one ottoman, the Secretary's table, and possibly a corner on the counters of exhibitors of apparatus. In Liverpool there is no difficulty, when lecturing under the auspices of the Photographic Association, in seating an audience of 600 to 800 people. When will the Photographic Society of Great Britain gather round them such a company?

ABOUT societies and their work, or rather their want of interest, we have had several proofs. Not the least is one from a secretary of a society in a large provincial town, who prepared a very exhaustive and excellent paper upon a most interesting branch of photography within the scope and understanding of the merest beginner, and yet the attendance did not exceed a dozen, although the society numbers some fifty or more members.

A CORRESPONDENT pleads for pyro and ammonia, and proceeds to prove its many good points. We are entirely agreed as to its merits in the hands of those who know how to use it, and would go so far as to say that no photographic

education is complete unless it includes a knowledge of the use of pyro and ammonia with a certainty of the results to be obtained.

IT often surprises us to find how widespread is the interest taken in our competitions. Surg. A. G. E. Newland, Burma, has entered for the December Monthly Lantern-slide Competition, "Figure Studies and Humorous." Of two slides he contributes he writes: "The slides represent Lieut. C. J. Grant (now Major Grant, V.C., of the 2nd Burma Battalion), one in the act of killing a mosquito, and the other shows his joy at the success. These two pictures are equally typical of Lieut. Grant before and after the capture of Thobal. The pictures are very characteristic of Major Grant, and the expression of his eyes, the lines in his face all show at once the resolute and determined character of the man. How he won the V.C. at Manipur is well known.

As England is justly proud of her heroes and delights to honour them, I have no doubt these slides will be found interesting to many."

In the last Monthly Photographic Competition we have many prints from the Continent, our own colonies, and India, proving the enormous area over which the AMATEUR PHOTOGRAPHER travels.

THE *Art Journal* for November is a most interesting production. The frontispiece is an original etching by Wilfrid Ball, "Venice from the Lagoon." The illustrated articles are: "The Private Art Collections of London: The late Mr. David Price's in Queen Anne Street, by J. F. Boyes, F.S.A.;" "A Modern Country Home," by T. Raffles Davison; "The National Art Competition," by Aymes Vallance; "The Royal Academy of the Last Century," by J. E. Hodgson, R.A., and F. A. Eaton; Part VII. of "The Pilgrim's Way—Charing to Harbledown," which is most charmingly written by Mr. Henry M. Ady, and illustrated by A. Quinton. There is to our mind no illustrated journal published in which such care and attention is displayed as in the *Art Journal*.

THE North Middlesex Photographic Society announce that their annual exhibition of photographs will be held on Monday, December the 14th. The exhibition is limited to members' work. The judges this year will be Messrs. J. Gale and Ralph W. Robinson.

AN effort is being made to form a society for the purpose of making a "Photographic Survey of the County of Staffordshire." A meeting has been called for Monday, the 9th of November, at 7 p.m., in the Public Free Library, Stoke-on-Trent. Mr. A. J. Caddie, the librarian, will be glad to hear from anyone who may be desirous of helping the scheme, or Mr. W. A. Meigh, of Ash Hall, Stoke-on-Trent, will gladly give further particulars and welcome any of our subscribers at the meeting.

MR. G. W. HATFIELD, of 817, Commercial Road, London, E., writes us that several amateur photographers in the neighbourhood are wishful to form a camera club. Those who are desirous of supporting such a scheme are asked to send their names and addresses to Mr. Hatfield, who in conjunction with his friends, hope to be able to arrange a preliminary meeting at an early date.

ENTRIES are coming in very well for the Tunbridge Wells Photographic Exhibition. We are asked to mention that the last day for sending in pictures is the 20th inst. We hear that there will be a good show of apparatus. Each evening will be devoted to exhibitions of lantern slides.

The AMATEUR PHOTOGRAPHER 1891 Prize Slides will be shown on the 27th inst. by Mr. Charles W. Hastings.

AN exhibition is being promoted at Leytonstone in connection with the photographic section of the Filebrook Athenæum, of which Mr. Joseph W. Spurgeon is Hon. Secretary. Six silver medals are to be awarded; we note that amateurs only may compete. Entry forms must be received on or before the 17th inst., and all pictures by the 24th. The exhibition is to be opened on December 2nd. How long it remains open does not transpire. Mr. Spurgeon will give further particulars; his address is 1, Drayton Villas, Leytonstone.

"AMATEUR PHOTOGRAPHER" 1891 PRIZE SLIDES.

Nov. 9.—Preston	Jan. 16.—Rodley, near Leeds
" 10.—Manchester Am: Phot:	" 18.—Leeds
" 11.—Kendal [Soc:	" 19.—Sheffield (?)
" 12.—Blackburn	" 20.—Sheffield C: C:
" 13.—Liverpool C: Club	" 21.—Dewsbury
" 14.—Douglas, I. of Man (?)	" 22.—Holmfirth
" 17.—St. Helens	" 26.—Newcastle-on-Tyne
" 18.—Coventry	(Tynesdale C. C.)
" 20.—Louth	" 28.—Huddersfield
" 21.—Fakenham	Feb. 1.—Halifax
" 23.—Buxton	" 2.—Keighley
" 25.—Ashton-under-Lyne	" 4.—Cleveland C. C.
" 26.—Barrow-in-Furness	" 8.—Crewe
" 27.—Tunbridge Wells	" 9.—Wolverhampton
" 28.—Mayfield, Sussex	" 10.—Birkenhead
" 30.—Croydon	" 11.—Chester
Dec. 1.—Sutton	" 16.—East Southsea
" 2.—Normandy, Guildford	" 17.—Southsea
" 4.—Maidstone	" 21.—Rossendale
" 8.—Lewes	" 23.—Dukinfield
" 9.—Putney	" 24.—Stockport
" 11.—Richmond	" 25.—Oldham
" 15.—Faversham	" 26.—Lancaster
" 16.—Enfield	Mar. 2.—Shrewsbury
" 17.—Ealing	" 11.—Dublin
" 18.—Lewisham	" 14.—Cork
" 21.—Hastings	" 17.—Llandaff
" 22.—Brighton	" 18.—Cardiff
Jan. 2.—Bootham (York)	" 19.—Aberdare (?)
" 4.—York	" 21.—Kington (Hereford)
" 5.—Darlington	" 22.—Hereford
" 6.—Sunderland	" 23.—Birmingham
" 7.—Stockton	" 24.—Walsall
" 8.—Whitby	" 25.—Gloucester
" 9.—Haltwhistle	" 26.—Bath
" 11.—Newcastle-on-Tyne	" 29.—Bedford
" 12.—Leith	April 4.—Peterborough
" 13.—Edinburgh (afternoon show, private)	" 5.—King's Lynn
" 13.—Edinburgh Phot: Soc:	" 7.—Hull
" 14.—Brechin	" 9.—Yarmouth
	" 12.—Uttoxeter
	" 19.—Oxford

It will be seen by the foregoing that almost every possible date has been fixed up to the middle of April. We have several applications for the 1891 Prize Slides between the 22nd of December and the 2nd of January, but the places are so far afield that it will be quite impossible to arrange for the dates—we will write the applicants later on. The fixtures are made so close together that it is imperative that the box of slides be sent on in accordance with the advice note; any deviation from the instructions, or neglect to despatch the slides to the next town will cause the most serious inconvenience to many hundreds of people. We therefore confidently hope that each recipient will forward whenever possible the same night, and that before the box leaves his hands the slides will be arranged in the order they are to be shown; if this is faithfully done, much trouble will be saved. Our apologies are due to those who have had the 1891 Prize Slides, because up to the present, we have not had time to prepare, in a complete form, the notes which should accompany them.

THE sunny South is recalled by Mr. William Logsdail's cabinet pictures now on view at the Fine Art Society's. Mr. Logsdail has depicted, in a graceful and artistic manner, various charming scenes which will be familiar to lovers of the Riviera. He has exchanged the discovery of pretty spots in London for the portrayal of lovely landscapes on the Riviera. In both examples of work he is admirable, and while "lovers of the beautiful" are visiting the numerous picture galleries now open, we hope they will spare some time to look at Mr. Logsdail's pleasant views.

M. G. MUIR writes us from the High School, Glasgow, that a photographic society has been formed in connection with the school. The first meeting has been held, and the members derived much instruction from a lecture upon "The Chemistry of Photography," delivered by Mr. James Knight, M.A., B.Sc. The membership is already considerable, and we are pleased to find that photography is making such headway in our schools, whilst, doubtless, it is an aid to education. It also forms a pleasant occupation both in the field and the school.

WE understand that the Committee of the Polytechnic Institution are arranging a series of co-operative excursions to the Chicago Exhibition, 1893. The Committee hope that the excursion will be accomplished within one month, and that the whole round excursion will not cost more than twenty-five guineas. Mr. R. Mitchell, the Secretary of the Institution, 309, Regent Street, W., will be pleased to give full particulars.

ON Monday, the 9th inst., Mr. F. Fry (Woodbury Company) will demonstrate upon "Carbon Printing" at the offices of the AMATEUR PHOTOGRAPHER, 1, Creed Lane, E.C. Doors open at 7.30 p.m., commence at 8 p.m. Mr. Charles W. Hastings will preside and give a short sketch of the history of "Carbon Printing."

It is said that at Vienna a veritable invention of the "snap shot" character has just been introduced to public notice. Concealed in a rifle is a miniature apparatus made of aluminium for taking photographs. Every time a shot is fired the apparatus closes automatically. When the photograph appears, one sees the object at which aim was taken in a circular picture. In the centre of this, the shot must have taken effect. Illimitable possibilities present themselves to our imagination, if this invention is brought to this country. Not only will Bill Bluggins, the poacher, be inevitably convicted by the gamekeeper of the most noble the Marquis of Carabbas. In the local police-court the case will be treated summarily after the photograph of the ruffian Bill has been handed round among the magistrates. The camera cannot lie, like Bill Bluggins, who will thereafter content himself with adjectives applying to the photographic rifle. Then, again, the unfortunate guest at a shooting party, who has never before handled a gun, will be unable to say that "he is sure he hit a bird, because he heard it drop." No, the veracious rifle camera will tell its own tale, if the circular picture displays the branch of a tree. One use for this clever invention would be found for it at shooting competitions. A series of prints illustrative of the target, when shooting for the Queen's Prize takes place at Bisley, would be decidedly novel.

THE Secretary of the Royal Commission for the Chicago Exhibition, 1893, Sir Henry Trueman Wood, M.A., has sent us a copy of the prospectus. We note that in the classification photography has a place in Department L, "Liberal Arts, Education, Literature, Engineering, Public

Works, Music, and the Drama." and is ranked in Group 147, "Instruments of Precision, Experiment, Research, and Photography." We know not who is responsible for this classification. Some may possibly think that it is a definite settlement of the often asked question, "Is Photography an Art?" We incline to the belief that photography would have been more correctly placed in Department K, "Fine Arts, Pictorial, Plastic, and Decorative."

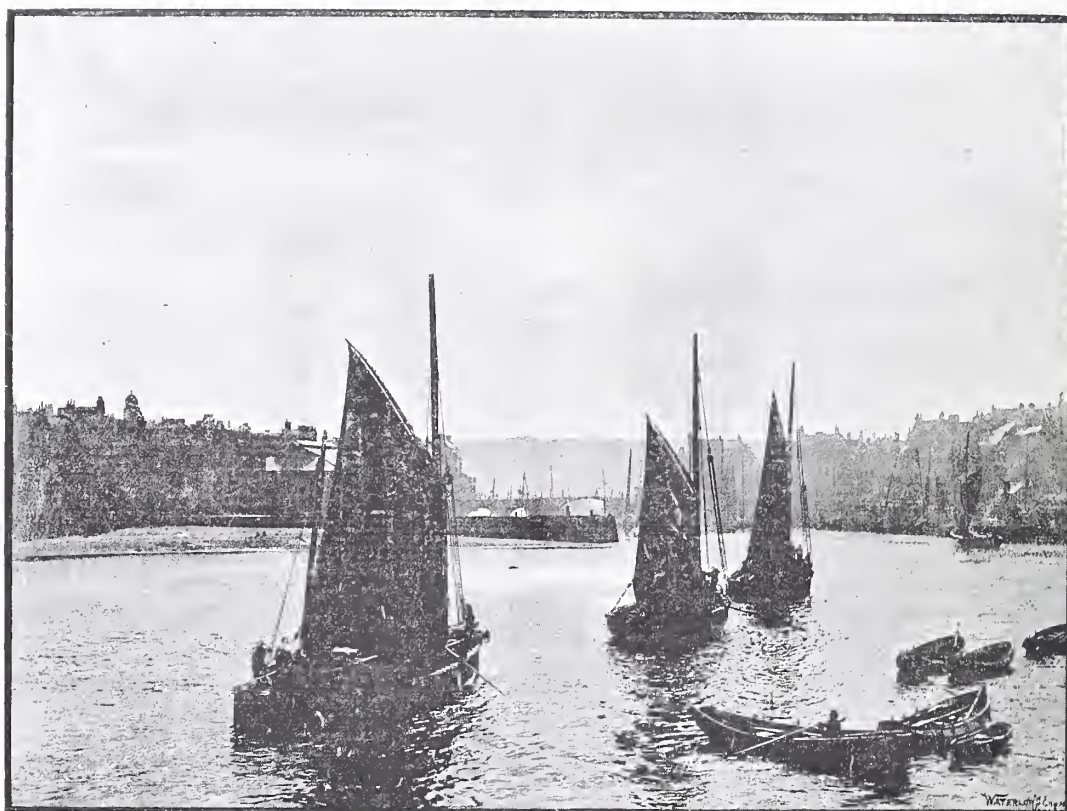
MR. R. THORNE WAITE has listened during two successive summers to "the lovely laughter of the wind-swayed corn." As a result, we have at the Dowdeswell Gallery a most delightful exhibition of water-colour pictures. It is very welcome, for we are nearing the time when we shall say :

"The melancholy days have come, the saddest of the year."

KALLITYPE PAPER.

IN 1831 Döbereiner discovered the light-sensitiveness of ferric oxalate, and Hunt, in 1844, used this salt to obtain a faint image, and developed to intensity with nitrate of silver, mercuric or auric chloride. Draper in 1857 also stated that paper impregnated with ferric oxalate and exposed to light gave a faint image which could be further developed with a 0.4 per cent. solution of nitrate of silver. Phipson, in 1861, communicated to the *Moniteur de la Photographie* a printing process in which paper treated with ferric oxalate and ammonium oxalate was exposed to light, and then well washed with water; the faint image thus obtained was intensified by treating it with a solution of permanganate of potash, rendered alkaline by a little ammonia, and the brown image thus obtained

"AMATEUR PHOTOGRAPHER" COMPETITION PICTURES.



FISHING BOATS ENTERING WHITBY HARBOUR.

By FRANCIS G. SMART.

To see these cheerful landscapes of Sussex country is, therefore, most refreshing. The artist has caught the calm beauty of the harvest fields and the sunny brightness of the hamlet with unerring fidelity to nature. One is reminded of some of Mr. Orrock's no less pleasing pictures as one looks at this varied exhibition. Mr. Thorne Waite has been extremely successful in both large and small pictures. He knows his forte, and sensibly keeps to the painting of rural scenes. There is not one picture in the exhibition which will not strike the visitor with the idea of familiarity with the identical scene depicted. This is the best compliment we can pay to any artist. Messrs. Dowdeswell have introduced the electric light, so that we shall not be debarred by King Fog from viewing their pictures.

could be blackened by treatment with tannin or gallic acid.

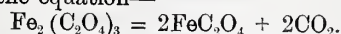
In 1861 Roynolds also used ferric oxalate, etc., treated the exposed paper with red prussiate of potash, ammonio-nitrate of silver, etc.; and in 1864 Borlinetto treated paper with a mixture of oxalate and citrate of iron, and developed with a weak alcoholic solution of nitrate of silver, 1 in 30. For this process Borlinetto was awarded a medal at Florence in 1864.

In 1890 Dr. Nicol's Kallitype paper was placed upon the market, and utilising the sensitiveness to light of ferric oxalate and tartrate, an image was obtained which was developed by floating upon a mixture of oxalate of potash and nitrate of silver, rendered alkaline with ammonia, the prints being cleared or fixed on a solution of ammonia and

citrate of soda. This year a modification of the process was introduced, in which the silver was incorporated with the sensitive salt on the paper, and development effected by a mixture of tartrate of soda and potash and bichromate of soda or borax.

It will be seen that Dr. Nicol in his Kallitype paper has invented no new thing, but has merely perfected and rendered useable well-known facts, but none the less honour is due to him for this improvement, just as much as though he had invented something quite new. In fact, if we are to give credit only to those men who actually invent something new in photography the names of honour will be few and far between. Some American writers have seen fit to cry down this process and its inventor for the reason stated above, but this, we think, is decidedly unfair.

The action of light upon ferric oxalate is to reduce it to the ferrous state with the disengagement of carbonic acid according to the equation—



and the action on ferric tartrate is similar, this salt being reduced to the ferrous state without the disengagement of carbonic acid at first, although later the same is given off. Ferric oxalate is sensitive to the spectrum from the ultra-violet to E, the middle of the green, whilst the tartrate is sensitive from the ultraviolet to F in the cyan blue.

We now come to the practical details of working the paper. As received, the paper is a bright yellow colour, and is sensitive to damp, like all papers prepared with ferric salts; it is therefore advisable to keep it in a dry place. We have been trying the No. 2 paper, and have certainly obtained very good results; the paper is exposed in the printing frame until the detail is faintly visible in the densest part of the negative. The next operation is development, and here we are not at one with the manufacturers. The developer they recommend for black tones is:—

Rochelle salt 1 oz.
Borax 1 „
Water 10 „

Solution of bichromate of potash (20 gr.

to the ounce) 10 to 12 drops.

Now, on adding the salts to the water a tremendous fall of temperature takes place, and try how we would we were unable to get the whole of the salts to dissolve. Our method then was to heat the solution, for borax is soluble in cold water, 1 in 12·5 parts, and the Rochelle salt 1 in 1·75, or practically 2. By heating the mixture, solution is at once achieved, and development can be effected on the hot solution with a great saving of time.

The next point in which we do not agree with the makers is in the use of bichromate of potash; this eats out the details and half-tones; and we have obtained far superior results by using a few drops of a 20-grain solution of permanganate of potash in place of the bichromate; in fact, the half of a print treated with the makers' developer—that is cold, and with bichromate—proved to be very weak and poor even after sixty minutes' immersion in the developer; whilst the other half treated by our method on a hot bath, and with permanganate, developed up in less than ten minutes, rich and deep in tone.

The same remark we must apply to the developer for purple tones, which is—

Rochelle salt 1 oz.
Borax $\frac{1}{4}$ to $\frac{1}{2}$ oz.
Water 10 oz.
Solution of bichromate 10 to 12 drops.

Here, again, finer tones are obtained by using the solution hot, and replacing the bichromate with permanganate. Another argument in favour of the solution being warmed, is that it must hasten the conversion of the iron into a soluble state, and render the elimination of the iron easier by the ammonia.

The makers state that from five to six dozen half-plate prints may be developed in 10 oz. of solution. This we think to be an error; we should say that half that number would be plenty, as we have found that by using the developer too long causes subsequent stains. We also have exceeded the makers' directions in well washing the prints between developing and fixing, and using no less than four fixing baths. When only using one fixing bath and not washing before fixing, our purple image turned, on drying, a nasty rusty iron colour.

The makers state that sepia tones are very difficult to obtain, and this we have found by their process, but, according to the old proverb, there are more ways than one of killing a cat. We tried to get sepia tones by other developers, and will now indicate the various directions in which experiments may be carried to obtain various tones, and some of which we have tried. A piece of paper was exposed under a negative for ten minutes to a weak, diffused light. On examination no image was visible; the paper was then cut into strips and developed in various ways. Hot oxalate of potash gave a rich yellow image, shading into sepia when dry; the addition of a little solution of mercuric chloride to the oxalate solution gave a deeper brown shading into purple; nitrate of uranium produced somewhat similar colours. Soaking the paper in a plain sulphocyanide gold bath, and then developing on hot oxalate, gave a purplish brown, and all the images took on a more purplish tone by treatment after development with a sulphocyanide gold bath. Hot oxalate of potash made distinctly alkaline with caustic potash gave deeper orange-coloured images, which gave a pleasing sepia when dry. After washing, all the images were rendered blackish by treatment with weak tannin, gallic acid, or eikonogen.

We shall be pleased to hear from any of our readers of experiments with Kallitype paper, or from the makers themselves with regard to what we have suggested, as our experiments are incomplete, from want of time to carry out an exhaustive series, but, so far as we have gone, Kallitype paper has proved itself as another valuable printing process for obtaining various coloured prints, and offers a fairly wide field for research in further modifications of the treatment and developers.



Carbon Printing.—Mr. C. E. F. Nash writes:—"In your reply to Carlo Donati on October 9th, you have forgotten an excellent book on carbon printing by Liesegang, the English translation of which was published by Sampson Low and Co. My copy is dated 1878."

EXHIBITIONS.

SOCIETY.	Place.	Open.	Close.	Last date for sending in.	Secretary.
Phot. Soc. of Great Britain Tunbridge Wells	London. Tunbridge Wells.	Sept. 28. Nov. 25.	Nov. 12. Nov. 28.	Sept. 16 Nov. 20.	H. A. Lawrance, 50, Great Russell Street, W.C. Joseph Chamberlain, 14, Calverley Park Gardens, Tunbridge Wells.
Art Gallery Committee ...	Leeds.	Dec. 7.	Jan. 9.	Nov. 27.	Geo. Birkett, Municipal Art Gallery, Leeds.

Letters to the Editor.

CHOICE OF LENS.

SIR,—With every word that Mr. Charles MacLaurin has written in his letter of last week I agree for my own work, but, at the same time, there are occasions when a single lens is not admissible, and therefore it is far better to recommend a beginner to purchase a rapid rectilinear than be called over the coals for recommending a universal lens, which gives distortion. If Mr. MacLaurin does not mind waiting till the "landscape, or single lens," is treated of in my notes, he will find there a very strong and big stick to beat the poor R.R.

My opinion is that most amateurs, possibly led by the length of their purse, fail in purchasing lenses which will only just cover the plate. Personally, for a half-plate I use a set of single lenses of $8\frac{1}{2}$, 10 $\frac{1}{2}$, 13, 15, 17, and 21 in. focus, which gives me a proportionate size of any object of 1, $1\frac{1}{2}$, $1\frac{3}{4}$, $1\frac{3}{4}$, 2, and $2\frac{1}{2}$. All are used in the same mount and nearly all with the full aperture of the diaphragm, which, of course, decreases in value, and each lens will cover a whole-plate sharply, so that I only use the centre of the field, and the longer focus lenses will cover up to 20 by 20 without trouble. In this fact lies the non-existence visually of curvilinear distortion. But take a landscape lens which is advertised to cover a quarter-plate and use it on a half-plate, and distortion is plainly visible. I had the pleasure of showing a few lantern-slides to some friends this week, and amongst them a series of interiors of Kentish churches which I had taken, and in four there were a row of columns, and neither an artist nor an architect, both of whom were photographers, would believe they were taken with a single lens, because they could not detect, by measurement or visually, curvilinear distortion.—Yours, etc.,
E. J. WALL.

* * * *

WORK OF PHOTOGRAPHIC SOCIETIES.

SIR,—The article in your last week's issue, on the apathy in connection with many photographic societies, convinces me that it is only the few *workers* who have at heart the welfare of the art and who are sufficiently interested in photography to exert themselves in assisting their fellow-workers.

Gentlemen like the one you mention, I fear are too plentiful, who simply gather together what information they can buy, borrow, or steal, and who have no practical knowledge of the subject on which they lecture. Such men injure rather than help societies.

Of course, it is impossible that any one member can be conversant with all technical knowledge in the various branches of photography. There may be some who are experienced in one subject, and others who know all about other subjects, and I venture to make the following suggestion as likely to benefit those who are really seeking for sound information: That any papers read by well-known workers before their own Society should be loaned to other Societies who may wish to have them read to their members. And further that a list of papers on various subjects, with the names of the authors, be published weekly in your valuable paper.

This would be of great advantage to many, and would help secretaries who have great trouble in getting papers read before the members of their societies.—Yours, etc.,

H. HARVEY-GEORGE

(Hon. Sec., Great Yarmouth Camera Club).

* * * *

PHOTOGRAPH OF A BIRD'S NEST.

SIR,—A few days ago, after a heavy storm, the gardener brought in a branch of a huge elm tree which had been broken off by the wind. At the extreme end of a twig on this branch there hung the nest of a Baltimore oriole, so beautifully made that I thought it worth while to make you a photograph of it. The original nest is just seven inches long, while the copy which I send you is $4\frac{1}{2}$ ins. long. It is made of various bits of house-bin refuse, white cotton twine, white silk ribbon, human hair, horse hair, wool, and moss. Though I have often seen the bird which builds this nest (the *Icterus Baltimore* of Linn) in Maryland and Louisiana, I have never found it so far north as this, but Audubon, in his "Birds of America," tells us that it has been found even in Labrador, and on the Saskatchewan river in British Columbia, and gives a fine coloured plate of it (No. 217) in his great work. It is interesting to see how the male and female birds co-operate in weaving the beautiful little nest, which is much warmer here than that made

by the same bird of the southern moss in the swamps around New Orleans. May I express the wish that there could be more interchange of such photographs between the amateur photographers of England and America. I am always glad to exchange with those who can send me good photographs illustrating the geology of the ice-age in Europe, and send in exchange illustrations made on my geological excursions in America.—Yours, etc.,

JOHN FRETWELL.

Rhode Island, U.S.A., October 23rd, 1891.

NOTE.—Had a better print been sent us we would have reproduced the picture, which is most interesting.—ED : AM : PHOT :

* * * *

THE SOUTH HORNSEY PHOTOGRAPHIC SOCIETY.

SIR,—In thanking you for drawing the attention of your readers to the South Hornsey Photographic Society, in which you say, "We should have thought that with the North Middlesex and North London, both first-class, admirably conducted societies, the district was well catered for," permit me to mention that it has been started to help those amateurs who have only just taken up the art, and know little or nothing about it, and who do not care to join such societies as either of those you mention, where professionals are among the members, and those who really need the benefits of the society do not feel at home in asking questions which are Greek to them, and at the asking of which the more advanced members are tempted to laugh. The improvement of its members in the art of photography is its main object, and we shall be only too pleased to lend our aid to any one who needs it, including those who have never even seen the ins and outs of a camera.

Apologising for taking up so much of your valuable time, allow me to remain yours faithfully,
122, Queen's Road, Finsbury Park, (Chairman).
October 30th, 1891.

PERCY A. LEGGE

NOTE.—Perhaps the Secretaries of the North London and North Middlesex Societies will give our correspondent some information as to what their respective societies do and have done for beginners.—ED : AM : PHOT :

* * * *

A CORRECTION.

SIR,—In this day's AMATEUR PHOTOGRAPHER is a list of makers of the lantern plates used in recent competitions, from which it would appear that out of 166 plates used, only three were Pagets. Will you permit me to point out that even this small number is too great, as no such thing as a Paget lantern plate is yet in existence, or has ever been sold.

If the plates used were ordinary Paget *negative* plates, it is somewhat of a compliment to their clearness that their users were able to make from them slides fit for competition at all.

But when a Paget lantern plate does enter the market, which I hope will be very soon, I trust its place in such lists will not be at the bottom.—Yours, etc.,

WM. J. WILSON.

Watford, October 30th, 1891.

NOTE.—The competitor has probably used a Paget plate for his negative.—ED. AM : PHOT :

* * * *

DEVELOPMENT.

SIR,—In my former letter I stated that I had found neither iron nor hydroquinone equal to pyro. I shall probably try eikonogen for positive work during the coming winter. I have not tried it for negatives, as pyro meets all my requirements as a negative producer, and it is in this capacity I especially urge its claims. It is an easy matter, by the addition of sulphite of soda or metabisulphite of potash, to produce black and white negatives with pyro, and if Mr. Ellis will communicate with me through the Editor, I will gladly forward for his inspection two or three negatives developed with ammonia and preserved pyro. I cannot understand the inability to secure density, unless there is great over-exposure; my experience is just the reverse. For lantern-slides hydroquinone answers admirably, but I would recommend Mr. Ellis to use dry pyro and washing soda occasionally. A formula is supplied with Fry's plates. It gives a warm olive-green colour, which, for some subjects, is very effective.

In conclusion, I would again advise anyone who "wants a formula," or developer for negative work, to give a fair trial to pyro and ammonia, with bromide of ammonia or potash as the restrainer. If they use 10 per cent. solutions they will have a developer with which all brands of plates can be worked, and negatives secured with admirable printing qualities. If the colour is objected to, by all means use preserved pyro and the objection is overcome.—Yours, etc.,
Iso.

CONTROLLING DEVELOPMENT.

SIR,—Will you kindly give me space to recommend to your readers the use of the common form of odorater or spray producer for throwing into the developing dish an additional quantity of accelerator, restrainer, or developer, as may be required at the moment.

Compared with the usual plan of pouring off the developing solution, dropping in the addition required, and pouring back upon the plate, the use of the odorater possesses great points of convenience. A simple touch on the rubber ball of the instrument distributes over the flooded plate the appropriate solution, or directs it to any part of the subject where local acceleration or restraint seems desirable. Air bubbles of course cannot be formed, as they frequently are in pouring the solution.

When using this plan it is best to make the spraying solutions somewhat weaker than the stock solutions, though the odorater seems to be almost an ideal instrument for keeping volatile or oxydisable fluids, admitting as it does only sufficient air to take the place of the fluid ejected.—I am, yours, etc.,

W. E. CROWTHER.

School of Science and Art, Londonderry.

Photographic Procedure.

By E. J. WALL,

Author of the "Dictionary of Photography."

SECTION II.—THE LENS (*continued*).

Apochromatic.—This is a term of somewhat recent application to photographic objectives, and has been applied to particular lenses made of special glass constructed at Jena, in Germany, and it signifies that the secondary spectrum has been eliminated. Practically it means that the lens is more accurately corrected for chromatic aberration, and consequently is proportionately more rapid than usual.

Anastigmatic.—This is also a term applied to lenses constructed of Jena glass, and denotes that they are specially corrected for astigmatism.

Depth of Focus.—This is a theoretical impossibility, but a very valuable practical fact, and signifies that when any point is focussed sharply there is a certain distance before and behind that point which is also equally sharp. It is hardly necessary to enter into any theoretical discussion, nor to give rules for finding this said depth, more than is given under Fixed Focus (*q.v.*)

Diaphragms.—Diaphragms, or stops, as they are frequently called, are either loose plates of metal, or a rotating metal screen, both having apertures of certain diameters; or another form is of tongues of metal actuated by an external pin or ring which can be closed and opened out to any desired size.

The influence of the diaphragm on the picture is great and of considerable practical importance not only on the character of the picture, but also on the duration of exposure, as we shall see when treating of that subject. The influence of the diaphragm on the character of the image transmitted by the lens is seen first in a reduction of the amount of light admitted by the lens; secondly, by increase of the marginal definition; and, thirdly, by increase of the depth of focus (*q.v.*). The following are maxims to be carefully observed in practice:—A large diaphragm gives a bolder picture than a small one; use the largest aperture diaphragm that will give sufficient sharpness on the focusing screen. The smaller the aperture the longer the exposure and the greater the depth of focus.

It is customary to give the apertures of diaphragms definite diameters, that is to say, the diameter of the diaphragm apertures should be a definite fraction of the focal length of the lens. There are several methods adopted, the one in general use being the ratio aperture, or f/x system. The Photographic Society of Great Britain have recom-

mended another system, which is called the Uniform Standard or U. S. system; and, as the unit or starting point of this system, an aperture which is one-fourth of the focal length is numbered 1. Other systems are also in vogue on the Continent, and will be given later.

To find the "ratio aperture" or f/x number of any diaphragm is extremely simple, the rule being merely to divide the equivalent focus by the diameter of the diaphragm aperture, when the result will be the f/x number. *E.g.*: The focal length of lens $8\frac{1}{2}$ ins.

The diaphragm apertures measure $1\frac{1}{16}$, $\frac{3}{4}$, $1\frac{1}{2}$, 2 , $2\frac{1}{4}$ inches respectively, then—

$$\begin{aligned} 8\frac{1}{2} \div 1\frac{1}{16} &= 8 = f/8 \\ 8\frac{1}{2} \div \frac{3}{4} &= 11.3 = f/11.3 \\ 8\frac{1}{2} \div 1\frac{1}{2} &= 16 = f/16 \\ 8\frac{1}{2} \div 2 &= 22.6 = f/22.6 \\ 8\frac{1}{2} \div 2\frac{1}{4} &= 32 = f/32. \end{aligned}$$

To find out the U. S. numbers equivalent to these ratio apertures, square the f/x numbers, and divide by 16, *e.g.*:

$$\begin{aligned} f/8 \text{ squared} &= 64 \div 16 = 4 \text{ U.S. No.} \\ f/11.3 &= 127.69 \div 16 = 8 \text{ " } \\ f/16 &= 256 \div 16 = 16 \text{ " } \\ f/22.6 &= 510.76 \div 16 = 32 \text{ " } \\ f/32 &= 1024 \div 16 = 64 \text{ " } \end{aligned}$$

In 1882 Dr. Stolze suggested a system of diaphragm numbering which was found by squaring the focal length and dividing this by the diameter of the diaphragm squared; thus, taking our former example, a lens of $8\frac{1}{2}$ in. focus and diaphragm apertures given above, we should find the numbers as follows:—

$$\begin{aligned} (8\frac{1}{2} \times 8\frac{1}{2}) \div (1\frac{1}{16} \times 1\frac{1}{16}) &= 64 \\ (8\frac{1}{2} \times 8\frac{1}{2}) \div (\frac{3}{4} \times \frac{3}{4}) &= 128 \\ (8\frac{1}{2} \times 8\frac{1}{2}) \div (1\frac{1}{2} \times 1\frac{1}{2}) &= 256. \end{aligned}$$

In 1886 Dr. Stolze suggested, as an improvement on this, the numbering of the stops with numbers, obtained by dividing the square of the focal length by one hundred times the square of the aperture, *e.g.*:—

$$\begin{aligned} (8\frac{1}{2} \times 8\frac{1}{2}) \div (1\frac{1}{16} \times 1\frac{1}{16}) \times 100 &= 64 \\ (8\frac{1}{2} \times 8\frac{1}{2}) \div (\frac{3}{4} \times \frac{3}{4}) \times 100 &= 128 \\ (8\frac{1}{2} \times 8\frac{1}{2}) \div (1\frac{1}{2} \times 1\frac{1}{2}) \times 100 &= 256 \end{aligned}$$

This practically means taking $f/10$ as the unit, which aperture was also adopted by the International Congress on Photography, held at Paris in 1889.

Mr. T. R. Dallmeyer recommended the marking of the diaphragms on a system which takes as its unit $\frac{1}{\sqrt{10}} = 3.16$.

The diaphragms, numbered on this system, would then be as follows:—

$$\begin{aligned} 8\frac{1}{2} \div 1\frac{1}{16} &= 8 \times 8 = 64 \div 10 = 6.4 \\ 8\frac{1}{2} \div \frac{3}{4} &= 11.3 \times 11.3 = 127.69 \div 10 = 12.769 \\ 8\frac{1}{2} \div 1\frac{1}{2} &= 16 \times 16 = 256 \div 10 = 25.6. \end{aligned}$$

It will be seen from this that the system is practically a modification of Stolze's.

Zeiss, the famous Jena optician, has adopted yet another system, which takes as its unit $f/100$, as suggested by Dr. Rudolph, and the actual working aperture of the lenses is taken as the diaphragm aperture. The following table gives, therefore, the connexion between the relative or ratio aperture and the stops:—

No. of Stop.	Relative Aperture.	No. of Stop.	Relative Aperture.
1	1/100	32	1/18
2	1/71	64	1/12.5
4	1/50	128	1/8
8	1/36	256	1/6.3
16	1/25	512	1/4.5

"The photographic exposure corresponding, *ceteris paribus*, to the different stops, is, therefore, in the *inverse* ratio of those numbers."

Goerz, the optician of Berlin-Schöneberg, has adopted yet another system of marking the diaphragms; this is the

relative time of exposure (t) calculated from the formula $t = \frac{1}{10} \left(\frac{f}{d} \right)^2$, when f = the focus, d = effective aperture. This is really Dallmeyer's system of $\frac{1}{\sqrt{10}}$, but the diaphragms are numbered differently. The following table shows the f/x number for each diaphragm, as marked by Goerz:—

Goerz's Numbers.		Goerz's Numbers.	
4	= $f/6.3$	48	= $f/21.9$
6	= $f/7.7$	96	= $f/31$
12	= $f/11$	192	= $f/43.8$
24	= $f/15.5$	384	= $f/62$

The following table, compiled by Mr. S. A. Warburton, gives the U.S. and f/x numbers for all diaphragms:—

F.	U.S. No.	F.	U.S. No.	F.	U.S. No.	F.	U.S. No.
1	= $f/6$	8.75	= 4.78	37	= 85.56	69	= 297.56
1.25	" .097	9	" 5.06	38	" 90.25	70	" 306.25
1.414	" $\frac{1}{2}$	9.25	" 5.34	39	" 95.06	71	" 315.06
1.5	" .140	9.5	" 5.64	40	" 100.0	72	" 324.0
1.75	" .191	9.75	" 5.94	41	" 105.06	73	" 333.06
2	" $\frac{1}{3}$	10	" 6.25	42	" 110.25	74	" 342.25
2.25	" .316	11	" 7.56	43	" 115.56	75	" 351.56
2.5	" .390	11.31	" 8.0	44	" 121.0	76	" 361.0
2.828	" $\frac{1}{4}$	12	" 9.0	45	" 126.56	77	" 370.56
2.75	" .472	13	" 10.56	45.25	" 128.0	78	" 380.25
3	" .562	14	" 12.25	46	" 132.25	79	" 390.06
3.25	" .660	15	" 14.06	47	" 138.06	80	" 400.0
3.5	" .765	16	" 16.0	48	" 144.0	81	" 410.06
3.75	" .878	17	" 18.06	49	" 150.06	82	" 420.25
4	" 1.0	18	" 20.25	50	" 156.25	83	" 430.56
4.25	" 1.12	19	" 22.56	51	" 162.56	84	" 440.0
4.5	" 1.26	20	" 25.0	52	" 169.0	85	" 451.56
4.75	" 1.41	21	" 27.56	53	" 175.56	86	" 462.25
5	" 1.56	22	" 30.25	54	" 182.25	87	" 473.06
5.25	" 1.72	22.62	" 32.0	55	" 189.06	88	" 481.00
5.5	" 1.89	23	" 33.06	56	" 196.0	89	" 495.06
5.656	" 2.0	24	" 36.0	57	" 203.06	90	" 506.25
5.75	" 2.06	25	" 39.06	58	" 210.25	90.50	" 512
6	" 2.25	26	" 42.25	59	" 217.56	91	" 517.56
6.25	" 2.44	27	" 45.56	60	" 225.0	92	" 529.00
6.5	" 2.64	28	" 49.0	61	" 232.56	93	" 540.56
6.75	" 2.84	29	" 52.56	62	" 240.25	94	" 552.25
7	" 3.06	30	" 56.25	63	" 248.06	95	" 564.06
7.25	" 3.28	31	" 60.06	64	" 256.0	96	" 576.00
7.5	" 3.51	32	" 64.0	65	" 264.06	97	" 588.06
7.75	" 3.75	33	" 68.06	66	" 272.25	98	" 600.25
8	" 4	34	" 72.25	67	" 280.06	99	" 612.56
8.25	" 4.25	35	" 76.56	68	" 289.0	100	" 625.00
8.5	" 4.51	36	" 80.0				

We have stated above that to determine the value of the diaphragms it is necessary to find the focal length and divide this by the aperture of the diaphragm. Burton gives a very convenient table in his useful little handbook, "Modern Photography," which gives the diameter of the stop aperture for lenses of any focus from 6 to 11 in., and the diameter of any aperture for lenses of less or longer focus may be found by multiplying or dividing, as the case may be. I here insert this useful table:—

STANDARD No.	FOCAL LENGTH.										f/x OR Ratio No.
	6 IN.	6½ IN.	7 IN.	7½ IN.	8 IN.	8½ IN.	9 IN.	9½ IN.	10 IN.	11 IN.	
.25	3	3.25	3.5	3.75	4	4.25	4.5	4.75	5	5.5	$f/2$
.5	2.12	2.3	2.47	2.65	2.82	3.01	3.18	3.36	3.53	3.89	$f/2.828$
1	1.5	1.62	1.75	1.87	2	2.12	2.25	2.37	2.5	2.75	$f/4$
2	1.06	1.15	1.23	1.32	1.41	1.50	1.59	1.68	1.77	1.94	$f/5.656$
4	.75	.81	.87	.93	1	1.06	1.12	1.18	1.25	1.37	$f/8$
8	.53	.57	.62	.66	.71	.75	.80	.84	.88	.97	$f/11.31$
16	.37	.40	.44	.47	.5	.53	.56	.59	.62	.69	$f/16$
32	.26	.28	.31	.33	.35	.38	.40	.42	.44	.49	$f/22.62$
64	.188	.20	.22	.23	.25	.26	.28	.29	.31	.34	$f/32$
128	.132	.144	.155	.168	.177	.188	.20	.21	.22	.24	$f/45.25$
256	.094	.101	.109	.117	.125	.133	.141	.148	.156	.172	$f/64$

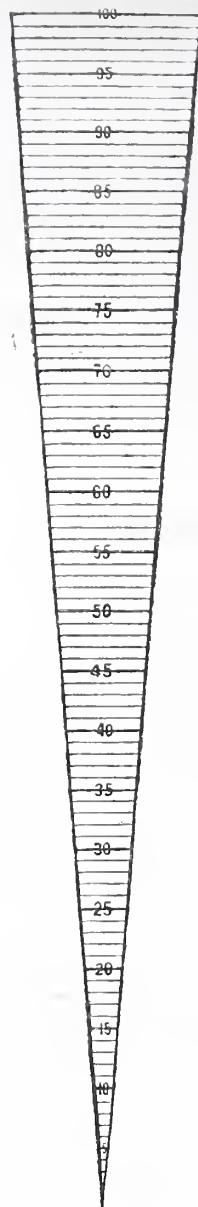


FIG. 81.

Braintree.—The second annual exhibition and conversazione in connection with the Gordon Camera Club was held at the Institute on the 29th and 30th ult. The competition (limited to members) was keen, the work being very creditable. Prizes were awarded as follows:—Class 1, landscape: W. Clark and E. J. Knights, equal first; A. H. Brocket, second; W. S. Nunn and B. L. Rankin, commended. Class 2, animal studies: J. A. Biggs, first; E. J. Knights, second. Class 3, portraits: J. A. Biggs, first; F. A. Bloomfield, second; B. L. Rankin, commended. Class 4, groups: J. A. Biggs, second and commended; no first being awarded. Class 5, instantaneous: B. L. Rankin, first and second; W. Clark and F. Bloomfield, commended. The special prize given by the judge (Mr. A. R. F. Evershed) for the most artistic and technically perfect photograph, fell to J. A. Biggs, for a very pleasing picture of a girl's head. In addition to the exhibition, the attractions of the conversazione included lantern-slide shows. The lantern, oxy-calcium, was worked by Mr. H. J. Cunningham, the popular President of the Club; the slides shown were by the President and members of the Club, by Mr. Evershed, and a set kindly lent by the Editor of the AMATEUR PHOTOGRAPHER, which were much admired and caused frequent applause. To the loan collections, photographs were contributed by Messrs. Cunningham and Evershed, and some negatives and prints taken by processes in vogue thirty to forty years ago were shown by Mr. F. Rowe; there were also several stereoscopes, and numerous other interesting and scientific examples.

(To be continued.)

Instantaneous Photography.

By W. JEROME HARRISON, F.G.S.

CHAPTER XV.

DEVELOPMENT—*Continued.*

The Pyro-Soda Developer.—Carbonate of soda—the “sal-soda” of American writers—behaves as an accelerator very similarly to potash. It gives rather more density, however, with not quite so much detail; and we have found it more suitable to slightly over-exposed plates than to the general run of instantaneous exposures. It is apt to give a well-marked yellow stain; but, as we have already intimated, we rather prefer such a stain when the negatives are thin and full of detail. The only drawback is that the negatives print more slowly. As a typical carbonate of soda developer, we give the following formula:—

Pyro	..	..	..	..	2 gr.
Carbonate of soda	..	..	..	10	„
Potassium bromide	..	..	..	$\frac{1}{4}$	„
Distilled water	..	..	..	1 oz.	

“Soda” is not quite so powerful in its action as “potash,” so that the quantity may be slightly increased. Where there is a certainty of under-exposure, the bromide may be omitted altogether.

What Form of the Carbonates to Use.—The ordinary “washing soda crystals” consist of carbonate of soda, but we do not recommend their use; they are frequently impure and variable in composition. The carbonates referred to in the preceding paragraphs are the pure crystals as sold by all chemists. These carbonates are also sold in the form of dry, white powders (known as *exsiccated carbonates*); but as they are of *double strength* in this form, only *half* the weights of carbonates indicated in the formulæ should be employed if the powders are used instead of the crystals.

Mixed Carbonate Developer.—Since potash gives detail, and soda density, many workers prefer to use a *mixture* of the two, taking half the weight of each carbonate given in the formulæ above. We have also found it answer well to *start* development with a little pyro-ammonia developer, and then pour this off and finish with a pyro-soda developer.

The Ferrous Oxalate Developer.—Ferrous oxalate is a charming developer; and if we could only be sure that our exposures were always correct, or very nearly so, it would undoubtedly take the lead. Until quite recently it was the favourite developer on the Continent, for the light is there less variable, and, moreover, ferrous oxalate is “kind to the plates,” that is, it will produce a passable negative from a plate that would “fog” under development by pyro-ammonia. Now, the plates produced in the Continental dry-plate factories in the early days of the gelatino-bromide process—1880-86—were certainly not equal to the English makes. Hence the hold which ferrous oxalate obtained upon the Continent.

Ferrous oxalate pure and simple is a yellow powder insoluble in water, but soluble in water to which potash oxalate has been added. The photographer does not generally use or buy it in this state, but he forms it by mixing a solution of ferrous sulphate with a solution of potash oxalate.

Dissolve a quarter of a pound of neutral potash oxalate in half a pint of hot distilled water. Test the solution by means of litmus paper, and add just enough oxalic acid to cause a piece of blue litmus paper to turn red. This is the stock solution, and should be kept in a well-corked bottle. As the liquid cools, crystals of potash oxalate will form on the bottom of the bottle, but that is of no importance.

Similarly, dissolve one pound of clean pale-green crystals of ferrous sulphate (sulphate of iron) in four ounces of hot

distilled water to which five drops of sulphuric acid have been added. This solution should be kept in a stoppered bottle (if the whole of the “iron” does not dissolve, it may be left at the bottom of the bottle, and is of no importance). This solution is spoiled by exposure to air; the bottle containing it should always be kept full, and this may be done by dropping in pieces of glass rod whenever any of the solution is poured out.

We now have two saturated solutions, (A) of potash oxalate, and (B) of ferrous sulphate.

The ferrous oxalate developer of full strength is made by pouring one ounce of B into three ounces of A. The ferrous sulphate combines with part of the potash oxalate to form ferrous oxalate; and the remainder of the potash keeps this ferrous oxalate in a state of solution. By using four or six ounces of potash oxalate instead of only three, we obtain a weaker developer.

Potassium bromide acts as a powerful restrainer with this developer, and not more than half a grain of bromide per ounce of developer need be employed. But, as a rule, the bromide may be dispensed with altogether.

The addition to four ounces of ferrous oxalate developer of two or three drops (not more) of a fresh solution of hyposulphite of soda of the strength used for fixing prints (2 ounces of hypo to 20 ounces of water) has a marked influence in bringing out detail in cases of under-exposure; but this is a plan which can only be recommended in extreme cases and as a last resort.

In mixing the ferrous-oxalate developer we must always add the iron to the potash. Should the reverse plan be tried, or should we exceed the proportion of one of iron to three of potash, a muddy yellow deposit forms, and the developer is useless. Ferrous oxalate does not stain the fingers like pyro; and it gives beautiful negatives of a blue-black colour, which are very quick printers.

Ferrous-Oxalate Developer of Highest Power.—It is possible to easily prepare a form of the ferrous-oxalate developer which shall considerably exceed in power that generally employed, and which shall be, in fact, equal if not superior in energy to any developer made.

Dissolve five ounces of ferrous sulphate in half a pint of water; dissolve, also, three ounces of neutral potash-oxalate in a similar quantity of water. Mix the two solutions, and allow them to stand for a day. A yellow precipitate of ferrous oxalate will form, which will settle to the bottom. Pour off the clear liquid and stir the yellow powder up two or three times with fresh water, allowing it to settle, and then pouring the water off. Finally, dry the yellow powder on white blotting paper: it is ferrous-oxalate.

Make a saturated solution of potash oxalate in the way already described, and then, while it is still hot, stir into it gradually some of the yellow powder of ferrous oxalate until no more is dissolved, and the liquid has a yellow muddy appearance. Allow this to stand for an hour or two, or until the excess of yellow powder sinks to the bottom, and then pour off the deep-red, clear liquid, which consists of oxalate of iron dissolved in potash oxalate.

This very powerful developer should be kept in filled stoppered bottles, and it is a good plan to put a hank of bright iron wire into each bottle to prevent decomposition. Keep the bottles in sunlight, as by placing them on a window-ledge.

The reason of the greater energy of this form of the ferrous oxalate developer over that prepared in the usual way, is to be found in the absence of sulphate of potash (a restrainer), and in the fact that none of the potash oxalate is abstracted from its solution, which is thus always fully saturated, and is therefore capable of holding more “iron” in solution.

Hydroquinone as a Developer.—There are two facts which may be stated at once about the developing powers of hydroquinone (or quinol, as it is frequently called); the first is that it will not develop at all at low temperatures, so that in winter care should be taken to use warm the solutions up to 60 deg. F.; in the second place, ammonia and quinol do not go well together, and some other alkali should always be employed.

With the carbonates of soda and of potash, quinol gives good results; but its action is rather slow. For instantaneous work it is best to use caustic soda, an alkali whose accelerating power is very great.

In England the formula first published by Messrs. R. W. Thomas and Co. (whose made-up developers are beautifully prepared and of excellent quality) has found general acceptance:—

No. 1.				
Hydroquinone	160	gr.		
Sodium sulphite	2	oz.		
Citric acid	60	gr.		
Potassium bromide	40	"		
Distilled water, to make	20	oz.		

No. 2.				
Sodium hydrate	160	gr.		
Water	20	oz.		

For use, mix one ounce of No. 1 with one ounce of No. 2, and add two ounces of water. Sodium hydrate is simply the chemical or scientific name for caustic soda.

EIKONOGON AS A DEVELOPER.

Eikonogen is sold as a whitish crystalline powder. The early samples soon turned grey, and then black; but the manufacture has been improved, and it now keeps fairly well, though it should be preserved in small, well-corked bottles, which should be opened as seldom as possible.

"Eiko" is not very soluble in water, so that it is not possible to make up a ten-per-cent solution. We have found the following formula work well:—

No. 1.				
Sulphite of soda	1½	oz.		
Eikonogen	½	"		
Distilled water	20	"		

No. 2.				
Carbonate of potash	1	oz.		
Water	10	"		

No. 3.				
Potassium bromide	1	oz.		
Water	10	"		

For general work, mix 3 oz. of No. 1 with 1 oz. of No. 2, and add eight drops of No. 3. For over-exposure, double or treble the amount of No. 3; and for under-exposure omit No. 3, and add more water.

MIXED OR "EIK-HYDRO" DEVELOPER.

Remembering that hydroquinone excels in giving density and eikonogen in giving detail, it seems that a mixture of the two ought to be better than either alone, if it combines the good qualities of each. The following "combined" or "eik-hydro" developer possesses good points, and is worthy of a trial.

No. 1.				
Sodium sulphite	160	gr.		
Eikonogen	60	"		
Hydroquinone	30	"		
Water	12	oz.		

No. 2.				
Carbonate of potash (crystals)	2	oz.		
Water	7	"		

For development, to every ounce of No. 1, add one drachm

of No. 2. If the image appears suddenly (over-exposure), remove the plate, rinse it, add some potassium bromide (five to ten drops of a ten per cent. solution) to the developer, and commence development afresh.



The Lantern, and How to Use it.

By C. GOODWIN NORTON.

(Continued from page 239.)

CHAPTER II.

WE now come to the lime-light in its many forms. This light is produced by impinging a flame forward by the combination of oxygen and hydrogen gasses against a cylinder of hard lime, which becomes incandescent, or white hot, and emits a pure white light of great intensity. In some cases coal-gas, methylated spirits, or the vapour of ether or benzoline is substituted in place of hydrogen, with varying results. Oxygen will not itself burn, but it is the great support if combustion; practically speaking, flame or fire is impossible without the presence of oxygen. The common air we breathe is composed of four parts oxygen and one part nitrogen mechanically mixed, it being impossible to separate them by mechanical process. Baryta will at a certain temperature absorb oxygen from the atmosphere, and when the temperature is raised give it off again, so that it can be collected and stored in a gas-holder, and afterwards compressed into steel vessels $\frac{1}{10}$ of its original bulk; thus, a 12 ft. vessel holding 12 cubic ft. of gas measures 20 in. in length and 4 in. in diameter, and weighs 15 lbs.; the vessels can be hired or purchased from the dealers, who fill them as required. This is the latest method of obtaining the oxygen, but it is obvious that gas can only be manufactured in this way with the aid of special apparatus and appliances. Many prefer what is now termed the old-fashioned method, by the decomposition of chlorate of potash, the gas being stored in india-rubber bags made for the purpose. Later on we shall compare the relative advantages of each method; the lanternist can then decide for him or her self which is most convenient for their particular purpose. The lime-light has up to the present had rather a bad name, owing to several explosions which have occurred, none of which have caused serious personal injuries while using it, but several persons have been killed while making oxygen gas. There really is no more danger than in using ordinary coal-gas, if proper precaution be used and ordinary care taken.

Avoiding minute fractions, chlorate of potash consists of oxygen two parts, potash and chlorine together, three parts, by weight. The oxygen can be drawn off by heat, leaving the potash and part of the chlorine behind.

To make oxygen gas the following apparatus is required: iron retort, wash bottle, india-rubber tubing, gas-bag, and gas-stove; the last is not indispensable, an ordinary fire will do nearly as well. The retort is usually made of wrought iron in the shape of a cone; the cap at the smaller end unscrews. In this cap there is a short tube, about $1\frac{1}{2}$ in. long, and the size of the neck of an ordinary bottle, to receive a cork, which acts as a safety valve should the gas generate too fast. There is a piece of tube near the top to conduct the gas to the purifier, to which it is attached by means of india-rubber tubing. The purifier is a vessel which contains water to cool the gas before it enters the bag. There are two tubes running through the upper part of the purifier, one connected to the retort, going nearly to the bottom, the other very much shorter, only just passing through the top; this is connected to the gas bag. The purifier is filled half full of water, so that the gas coming

from the bag must bubble through it. The tubing on the retort and purifier should be of brass, it being so much thinner than iron, with an internal diameter of not less than $\frac{3}{8}$ in. The rubber tubing should be just large enough to fit tightly without the necessity of tying with twine. Copper retorts are sold; they cost nearly twice as much as iron ones and do not last any longer. The best kind of retort is made from an ordinary one-gallon kitchen digester, costing about four shillings. Any gasfitter will then put an iron $\perp$ piece in the upper end, which will form the safety-valve when fitted with a cork. The bottom is fixed to the digester with a balk-nut inside the lid. The tube at the side is connected to a brass tube to carry off the gas. The $\perp$ piece should be a clear 1 in. in diameter inside; the branch at the side can be smaller, to take $\frac{1}{2}$ in. tube, which is $\frac{3}{8}$ in. inside. The lids of the conical retorts are made gas-tight by means of a leather washer. The one made from a digester must have the groove in the lid well luted with soft clay, which can be purchased at any oilman's shop; it is then put in its proper place, indicated by a X, and driven up tightly by a few smart taps from a hammer. The advantages of this retort are that it will last a lifetime, and never requires washing out, as ordinary retorts do.

Chlorate of potash placed alone in the retort and heated would turn to a liquid and boil up something like porridge, stopping up the safety-valve and gas vent, when an explosion would be inevitable. The same effect would be produced should there be any impurity in the mixture that would burn, such as coal dust, which might be accidentally mixed with the manganese. We must therefore mix something with the chlorate that will neither burn nor melt, but which will restrain the ebullition. There are several substances which might be used, but the best is a heavy black powder, known as oxide of manganese, in the absence of which sand would do, but must be quite dry and clean. It is usual to mix three parts of chlorate of potash with one of manganese, if used over a gas-stove, which can be regulated, but if an open fire be employed it is safer to add more manganese. Some authorities recommend the admixture of a little common salt, to restrain the decomposition of the chlorate, but salt attracts moisture from the atmosphere, and tends to rust the retort. The manganese is then added, and the whole carefully mixed with a bone paper-knife or flat piece of wood. When this is done the mixture should be tested in the following manner:—Place about a teaspoonful in a test tube or on a shovel, and hold it over a flame or fire. In about a minute oxygen will be given off, and if the mixture simply sparkles a little it may be considered safe; but if there be the slightest suspicion of an explosion there is some impurity, most probably in the manganese; the mixture should not on any account be used, and had better be returned to the dealer.

Theoretically, 1 lb. of chlorate should yield 6 $\frac{1}{2}$ oz. of gas, measuring 5 cubic ft., but in practice 4 ft. is as much as will be obtained, there being a considerable amount of waste in making gas in small quantities. Let it be noted the figures given in these papers, with one or two exceptions, are, while sufficiently accurate for all practical purposes, only approximate, decimals and fractions being avoided as far as possible. A bag the capacity of 8 cubic ft. will require 2 lb. of chlorate of potash, or 3 lb. if the mixture if the proportions of chlorate and manganese be as two to one. This should be placed in the retort, and the lid replaced as before indicated, care being taken that no pieces of the mixture get into the joint. The chlorine which comes off with the oxygen gas is very destructive to the gas bag and brass fittings of the lantern; any strong alkali if dissolved in the water contained in the purifier will arrest the greater part of it—caustic soda is, perhaps, the best.

After use the fluid makes a good disinfectant, but it should not be employed where there is any metal liable to rust or corrode. It is advisable to blow through the rubber tubing from the end joining the retort to the extremity, which is to be attached to the gas bag, to make quite sure that the tubes are properly connected to the purifier. If the tubes are connected wrongly, all the water would be forced into the gas bag, the upper part of which might catch fire by a splash from the retort. The retort should now be connected to the rubber tubing, and placed on a moderate fire or gas-stove three-quarters on. The bag should be placed at a higher elevation, to prevent any drops of water passing into it from the purifier. In a few moments the gas will be heard bubbling through the water, and its presence is ascertained by holding a piece of smouldering brown paper to the end of rubber tube, which is to be attached to the gas-bag; the first portion of the gas being mixed with the air in the retort purifier, and bubbling, should be allowed to escape. When the gas begins to come off in earnest, attach the tube to the bag, taking care that the tap is turned full on. There is now nothing more to do, except to take care that no part of the apparatus is touched or disturbed. When the bag is about half full, the bubbling will sensibly diminish; the fire should now be gently increased or the gas turned full on, taking care not to make the retort hotter than a dull redness. Almost immediately the heat is increased the bubbling will be resumed, and the gas come off as rapidly as at first. When the bag is full or the gas ceases to generate, the apparatus must be disconnected in the following order and no other. First, pull the rubber tubes off the gas-bag; secondly, close the tap of gas-bag; thirdly, take off the rubber tube from the retort; fourthly, lift the retort from the fire and place it in a safe place to cool, taking great care not to turn it over. If the retort is removed from the fire before disconnecting, there would be a partial vacuum formed, which the water in the purifier would at once proceed to fill, and a steam explosion might occur in the retort. When the retort is cool, it must, if of the usual shape, be washed out with cold water and carefully dried, but if a digester be used, the lid can be taken off, and the whole of the residue, which is baked into a cake, removed by a few blows from the end of a screwdriver or the poker. The manganese undergoes no chemical change, and might, if washed, be used again, but it is so cheap that it is not worth the trouble.

Precautions to Prevent Accidents.—See that all the joints are gas-tight, and that the tubes are rightly connected. The fire should be under control, and not too hot. The retort must not be suddenly cooled, especially while connected to the purifier, and must on no account be disturbed, except to remove it a very little from the fire, should the gas come off too quickly, and then it must be kept upright. Should the retort be required again for use immediately, it must be quite dry, clean, and cool. The digester retort being much thicker than a wrought-iron one, requires more heat.

(To be continued.)



Photographic Society of Great Britain.—The following are the arrangements for the lantern displays at the exhibition during the coming week:—Thursday, November 5th, Lantern slides by the South London Photographic Society. Saturday, November 7th, Competition slides. Monday, November 9th, Competition slides. Wednesday, November 11th, Lantern slides by Mr. J. A. Sinclair, illustrative of "A Scamper through Normandy." Thursday, November 12th, last night of the exhibition, Slides sent by Tasmanian and Indian contributors and the prize competition slides. The next ordinary meeting of the society will take place on Tuesday next, November 10th, at 8 p.m., at the Gallery, 5A, Pall Mall East, instead of at the society's rooms, as has already been announced. Mr. Leon Warnerke will read a paper, illustrated by lantern slides, upon "Photographic Technical Instruction upon the Continent." The medals will be presented to the prize winners.

Thursday Evenings at the Camera Club.

BY ONE OF OUR STAFF.

THERE was a very full attendance at the meeting on Oct. 29th, when Mr. Humphery presided, on the occasion of Dr. Patterson reading a paper on "Animal Photography with the Hand-Camera." Dr. Patterson's paper was devoted mainly to rebutting Mr. Gambier Bolton's theory that a stand-camera was absolutely necessary for animal photography. The lecturer objected that Mr. Bolton's methods were complicated, and his apparatus cumbersome. He had also another objection to Mr. Bolton's method—the waste of plates. Mr. Bolton had said that from thirty to sixty plates were often exposed on a single animal or bird before getting the perfect negative. In one case as many as 100 were so exposed. On the other hand, it was objected that the contrast in hand-camera negatives was too great, and that the perspective was distorted; his results would give some evidence on that point. Taking animals with a stand-camera was like going shooting with a four-pounder. You would have to fire many shots, and doubtless would kill the animal. Hand-camera work was like playing the violin; it was an art in which the beginner would not succeed until he had learnt. He did not agree that the photograph should be microscopically sharp. Before going to photograph an animal the worker should read up the animal's peculiarities, and a visit should be made to the animal, and notes made as to the best time of the year for the photograph, its characteristic pose, and so on. After pointing out that the hand-camera worker must understand development thoroughly, Dr. Patterson went on to describe the points of a good hand-camera for animal photography. It should carry a plate not less than a quarter-plate, or in many cases the negative would be too small to be of any use. The lens should be over 5 in. focus—he himself preferred 6 in. There should be a shutter working between the lenses, opening and closing from the centre, which would allow of the use of a larger aperture than any other form of shutter. It was important that the shutter should work smoothly, and without noise to distract the animal or bird to be photographed. It should also allow an exposure varying from one-twentieth of a second to three or four seconds. That, of course, was not necessary for instantaneous work, but the hand-camera was not necessarily only for instantaneous work.

There should also be a good method of focussing; for the work fixed focus was out of the question, it being sometimes necessary to get within five feet of the subject. With his camera, the "Key," he could focus on a ground-glass, and on doing that he worked a scale for 9 ft., 12 ft., 16 ft., and 20 ft.; when he wanted less than 9 ft. he used the screen, beyond 30 ft. everything was in focus. It was important to have a simple method of changing plates, so that any brand of plate could be used if desired, slow, rapid, or isochromatic. As to plates, he had only used two kinds, Paget's fifty times and Edwards' isochromatic of medium rapidity. For development he used an eikonogen formula, and he did so because the fineness of the deposit was increased by its use, and that was a great importance if lantern slides or enlargements were going to be made.

A number of slides by Dr. Patterson, and some by Mr. Sandilands, all taken with the hand-camera, were put through the lantern, and they were admitted to have proved the reader's assertion that the hand-camera could be effectively used for animal photography.

The Chairman, in inviting discussion on the paper, read a letter from Mr. Gambier Bolton, regretting his enforced absence, and saying, "Hand-cameras in animal photography are utterly useless. They cannot be held long enough for a long exposure, to get out detail in dark animals without sunlight." Mr. Dresser then made a few remarks, and spoke in favour of the hand-camera, and said that he had got very good photographs of animals with a hand-camera. His principle, however, was to let everybody please himself, and use either the one sort of camera or the other without fear of being called names. Mr. Andree also exhibited one or two slides which showed that even a beginner could do something with the hand-camera at the Zoo. Mr. Teesdale was of opinion that the shutter which clicked might be found useful to call an animal to attention at the right moment. Dr. John Lavis (Naples) described a hand-camera he designed to take with him for volcanic photography in Iceland. The chief points

were simplicity, strength, two lenses (wide angle and R.R.) on a holder similar to a microscope nose-piece, and changing the plates by means of a long sleeve at the back of the camera.

Dr. Patterson, in replying, said he was not attacking the stand-camera or Mr. Gambier Bolton. One who carried a 12 by 15 camera, as he did, could not do the first, and one who admired Mr. Bolton's work as he did, would not do the second. What he had tried to do was to show that the hand-camera could be successfully used in animal photography. The Chairman, in summing up the discussion, pointed out that the hand-camera was not a simple instrument; it was the most difficult form of photography, needing many qualities which were not called for with the stand-camera—immense grasp of subject, quickness, a good eye, steady hand, and so on. He also had a knock at those makers of shutters who advertise them to give from the 1-100th to the 3-100th part of a second, when the greatest speed that could be got out of them was the 1-20th of a second. Mr. Andree was shortly going to Abyssinia, and doubtless when he came back he would be able to show some good pictures, which would have to be taken in sunlight, which Mr. Bolton strongly deprecated.

General Preston desired to tell the meeting that the photographs of animals thrown on the screen were about as unlike nature as they possibly could be. He spoke from experience, for he had hunted in Abyssinia, S. Africa, and India, and had seen most of them in a state of nature. He did not think Mr. Andree would have many shots at the animals with his camera. Major Becher took rather the other view of the question, and said he had got many camera shots at buffalo, bison, and animals of that kind. The club will, therefore, have to wait till Mr. Andree's return for a final settlement of the point.

A vote of thanks to Mr. Patterson concluded the proceedings.



Quarterly Examinations in Photography.

Question 14.—Describe the production of a carbon print with matt surface.

ANSWER.—The sensitised paper for the carbon process being very easily affected by the atmosphere, it is best to buy the unsensitised tissue, and sensitise it in small quantities as wanted. It will keep when sensitised about fourteen days. The paper is sensitised in the following bath.

Bichromate of potash	...	...	...	1 oz.
Liq. ammonia (880 sp. g.)	...	...	...	5 drops.
Water	...	...	...	20 oz.

The tissue is immersed in this for two minutes in hot weather and three in cold.

It must be dried and kept protected from light, air, and damp.

The exposure is made in the ordinary way in the printing frame, and as no change can be observed during printing, the correct time is ascertained by an actinometer in the usual manner. The paper has to be developed from the back, and consequently must be transferred to some temporary support, so as to enable the gelatine to be dissolved from the back. This temporary support is of mullied zinc plate, or a specially prepared paper, to produce a matt surface.

From this support the print may be transferred to any substance, viz., paper, porcelain, metals, wood, etc.

When printing is complete the paper is immersed in cold water till the tissue begins to uncurl and float flat; it is then brought in contact, film side downwards, with the temporary support, and both raised from the water, and squeezed into optical contact.

They are then placed between blotting boards for ten minutes, and then immersed in a bath of water at a temperature of 105 degs. to 120 degs. F., and when the pigmented gelatine begins to ooze out at the edges of the paper, strip off the paper upon which the gelatine was spread, and keep washing the print with hot water by laying it on with the hand. As soon as development is complete it is plunged into a bath of cold water to set the gelatine, and is then placed in a bath of alum 1 oz., water 20 oz. This not only fixes the print by hardening the gelatine, but also discharges the yellow colour of the bichromate salt. It is allowed to stay in this bath for ten minutes, and is finally rinsed in several changes of water.

The final support, whatever it may be, is prepared by a coating of Nelson's gelatine 1 oz., water 20 oz. When dissolved, add to it gradually 12 gr. of chrome alum, and dissolved in the ounce

of water. The print on its temporary support and its final support, whether freshly prepared or not, are brought into close contact under the surface of water, and optical contact obtained by squeezing; they are then placed between blotting boards till quite dry, and the temporary support is stripped off, leaving a matt-surface carbon print in its proper position. The surface of the print entirely depends on the surface of the temporary support, paper of a rough surface being perhaps the best to produce a matt surface. The commercial final support, which is a stout paper, is already prepared, and only requires soaking in alum solution $\frac{1}{2}$ oz. to 1 pint, an hour before using.

THEO.

Question 15.—Write a short history of colour-sensitive photography.

ANSWER.—As photography progressed, it was quickly discovered that the sensitive plate did not reproduce colours in true gradation as seen by the eye. The most luminous part of the spectrum to the dry plate is the chemically active part between the Fraunhofer lines F and H, and there is practically no luminosity to the plate between C and F, where the greatest *visual* brightness exists. The problem then becomes, how to increase the sensitiveness of the plate to green, yellow, orange, and orange-red, and at the same time to reduce the sensitiveness to blue.

It has so far been found impossible to cause the silver bromide to absorb the whole of the rays in the same intensity as we see them, but though plates have been made more sensitive to the rays between C and F, they still remain more sensitive to the blue rays in the neighbourhood of G.

Colonel Waterhouse was the first to suggest the application of eosin, one of the coal-tar dyes; and Abney, Carey Lea, Eder, Vogel, and Bothamley have made experiments in the same direction, but Vogel was the first to formulate, in 1873, a workable process for using these dyes, but his researches were confined to the collodion process only. Then in 1882, a French chemist Attout Tailfer, successfully worked a process for dry plates, and this process is now worked in England by Messrs. Edwards. This last process consists of the use of eosin or erythrosin in conjunction with ammonia, rendering the plates more sensitive to yellow and yellowish-green. Vogel has introduced commercially a process in which azaline is used, this still further increasing the sensitiveness to the orange, orange-red, and red rays. Schuman has also used a cyanin bath. The greatest sensitiveness is yet in the blue, and to obviate this, it is found necessary to use a yellow screen, as was first suggested by Prof. Crookes, though not for isochromatic plates.

Later still, F. E. Ives, of Philadelphia, has made numerous experiments with collodio-bromide, and has found that using a strong alcoholic solution of chlorophyll, and then washing the plate in water strongly coloured with blue shade eosin, and drying, renders the plate sensitive for the whole range of the spectrum. ENALOF.

THE FARD.—(14) You omit entirely any directions how to obtain a matt-surface print. (15) Vogel discovered, not that the precipitate formed by adding nitrate of silver to an aniline dye was sensitive to light, but that bromide of silver stained with a dye was sensitive to the less refrangible rays—a thing altogether different.

CARFAX.—(13) As it is the first lantern slide you ever made it does you credit, only you don't want a reducing camera to make a lantern slide. (14 and 15) Are well defined and therefore no confusion in them.

AUGESCO.—(15) You have mixed up heliochromy and colour-sensitive work well; the two are totally distinct.

ENALOF.—(14) You omit to state how to obtain the matt-surface.

PEN.—(15) You suggest that the actinic or more refrangible rays are toned down "by being filtered through some coloured medium produced by dyes." It is not necessary for the sensitive film to be stained at all; equally good results are obtained without any visible coloration.

BRENT.—(15) You have mixed up heliochromy and colour-sensitive or orthochromatic work.

ME.—We note your remarks about the bichromate of potash. We were aware that ammonium vanadate was used in Endemann's aniline process, but although the paper has to be well sized with gelatine, the ammonium vanadate is used not to render the size insoluble but to form aniline black. We received your answers rather late; we should have liked to have published your answer to 12, only it came to hand too late to use. Your print of "The River Bain" is charming, and would, we think, stand a chance in our competitions.

FLARE SPOT.—(15) Colour-sensitive means orthochromatic, in ordinary parlance; not heliochromy.

QUESTIONS.

(For Questions 22, 23, and 24—latest day for Answers, Nov. 16—see last week's issue.)

25.—Copy the diagram on page 129 of the AMATEUR PHOTOGRAPHER of February 20, 1891, full size, and forward a matt-surface print with the negative.

26.—What are the chemical changes which take place in printing with platinotype paper?

27.—Describe the old calotype process.

Latest Day for Answers, November 23rd.

RULES.

1. Answers must be received on the date stated each week in the AMATEUR PHOTOGRAPHER.

2. All answers must be preceded by the question, and should be written on one side of the paper only, and each answer must be on a separate sheet or sheets.

3. A *nom de plume* may be used, and must follow every answer, and be affixed to every specimen of practical work.

4. Answers are not limited in length, but preference will be given to concise answers without unnecessary amplification.

5. Those desirous of competing must apply to have their names entered. As these examinations are intended to encourage the study of the theory and practice of photography, authorities upon photographic matters and contributors to the photographic journals will not be allowed to compete.

NOTE.—No information of any kind will be given to competitors, and nothing but the answers must be included for the examiners. All other communications must be addressed to the Editor.

Marks will be given for all answers, and, when possible, the best three answers will be published. The answer will not be published till the week following receipt of the same, and the examiners criticise each answer sent in, and when no satisfactory answer is received, will supply one. Threepizes will be awarded at the end of each quarter. (Full syllabus on application.)

All communications to be addressed to:—"EXAMINATION DEPARTMENT," AMATEUR PHOTOGRAPHER, 1, CREED LANE, LONDON, E.C.

Holiday Resorts and Photographic Haunts.

THE ISLE OF WIGHT.

BY A VISITOR.

If ever a paradise were to be formed for amateur photographers, this island might be taken as a model, and as it has a later season than other parts of England it is by no means too late to lay before the votaries of the "black art" some account of its beauties. Those so unfortunate as to be obliged to take their holidays late in the season cannot do better than make the Isle of Wight their destination. It is easily reached by several routes from London, but perhaps the best is the direct Portsmouth route from Waterloo.

At Portsmouth town a good view is obtained of the Town Hall which would certainly be worth a snap at with a hand-camera while the train is waiting in the station. At Portsmouth Harbour, where the boats leave for Ryde, the *Victory* and other vessels will also attract the snap-shottist. Ryde does not lend itself to such a process, as the sun is immediately behind it nearly all day, and would thus shine directly into the camera. The best place to make headquarters is Ventnor, as it is in the midst of as many natural beauties as can well be squeezed into one place. The town itself is built on an ancient landslip, and thus consists of terrace upon terrace of houses, mixed up with foliage and rocks in a most indiscriminate manner, with the heights of S. Boniface Downs behind. The zig-zag road should be visited by all, as many excellent pictures can be obtained from there. A wide-angle lens will often be found of great value in obtaining some of the prettiest pieces. Such an one would be the old church at Bonchurch, where the restricted area of the graveyard renders a wide-angle lens imperative. The pond at Bonchurch, the Landslip, Luccombe Chine, and Shanklin Chine can all be visited in one day, the return to Ventnor being effected by train from Shanklin. A magazine with a dozen plates can easily be exhausted on this journey, and those carrying a bellows camera would do well to make two days of it. Carisbrooke Castle should be visited, of course, which can be done by train, changing at Sandown. A good day's outing would be: train to Brading, visit the Roman Villa—merely as a curiosity, not for a photograph—the old church, and the stocks, which, being built over and within iron railings, cannot be photographed. A walk can then be taken over the downs, where some fine distant landscapes can be secured, besides studies in furze and sheep. By following the road for some miles, one at length comes in sight of Arreton, which possesses a fine old church, which it is worth while leaving the road to photograph. The walk can then be resumed to Newport, where a train can be obtained back to Ventnor *via* Sandown. Another good trip is: train to Yarmouth, where an old lady with her harp on the end of the pier is certainly worth a plate. The journey can then be resumed to Freshwater, and from thence Alum Bay, Totland Bay, and the Needles are all in fair walking distance. The Needles are difficult to get at, but a boat can be obtained either at Freshwater or Alum Bay, by which one can land at low water at the foot of the cliffs, and so obtain a good view of the famous—or infamous—rocks. A coach leaves Ventnor for Blackgang and Niton every day, and that might be made use of in reaching those places, either the outward or homeward journey being made on foot. The whole island can be fairly covered in a fortnight if free use be made of the trains; and here one might remark the excellent travelling on both the Isle of Wight and the Isle of Wight Central Railways. It is the fashion to attack these systems, but one could well wish the London

railways were as punctual and as easy travelling, the motion being so easy that snap-shots are by no means difficult from the windows. As for the fares, they are after all reasonable when one remembers that there is no heavy goods traffic to ske out the passenger receipts. In conclusion, I would morely add that a wide-angle and a narrow-angle lens are both needed in turn, and that, given these and average experience, good pictures are almost certain. One warning is needed, and that is, that the light is so strongly actinic, even when diffused, that over-exposures are frequent, even with shutter work. Small stops, moderately rapid plates, or quick shutters are essential.



Notes from the Edinburgh Centre.

(BY OUR DISTRICT EDITOR.)

THAT spirited juvenile body, though not by any means body of juveniles, the Edinburgh University Photographic Society, held the opening meeting of their current session on the evening of Monday, 26th ult. Dr. Drinkwater, the President, took the chair, and his opening words were a welcome of the members back to their studies. He introduced to them Mr. Alex. Ayton, North Bruntsfield Place, Edinburgh, who had kindly undertaken to read them a paper on "Portraiture."

Mr. Ayton said that of all the uses to which photography had been applied, none could compare with its employment in portraiture, which was the object to which its inventors intended it to be applied. Ninety out of every hundred portraits were at most caricatures, and reminded one of the saying of the old lady when she was shown an unfinished proof of her own portrait "It's a humbling sight." He did not intend to cover the whole field of portraiture, but only to give them a few practical hints, and to show them the lines on which to work in order to get a successful portrait. The first thing was to learn something of the character of the sitter. Character was beauty; it was the definite, individual character which constituted beauty. Their taste might not approve of it, but then their taste might be looked upon by some as being a bad taste. They should look for the balance of the face, remembering that the two sides of a face were seldom alike. Whatever it was which was the characteristic of the face, they ought to find it out, and seize upon it, and they would have a chance of a good portrait. Mr. Ayton went on to speak about the treatment of the sitter so as to allay any scruples he might have. He advised them not to pose till the last moment, to give the best care to the outlines of the picture, the outside lines being of very great importance, because faults in detail might be forgiven, or might not be seen, but the outlines could not but be seen. As a rule they should give the head a different position from the body, the head turning a little towards the camera, not the reverse. Then followed a great deal of valuable advice as to the posing of different varieties of head, the treatment of the different descriptions of features, but in all these things, he said, they must depend upon judgment rather than upon rules, however good. Proceeding, he explained by means of the blackboard various positions in the studio in which to obtain the best lighting; he showed how to arrange groups, and concluded by a reference to lenses and backgrounds. The members listened with interest to Mr. Ayton's handling of his subject, which, it is almost needless to say, was ably done. Several of the members spoke in complimentary terms of Mr. Ayton's remarks. Mr. F. Dundas Todd, who had looked in, was asked to say something about flash-light photography, and he described a flash lamp which he and a friend have been working at for several months, and which may be expected to be in the market in a week or two. In this lamp the light is obtained by blowing the powder through two layers of spirit flame, the flame being as large as two feet by one foot. The sheet form of flame had, he said, been adopted in preference to the bolt form. By sending it through the flame in the way they did, they secured that every particle of the powder was consumed. Every detail had been looked to, even to the form of the storage vessel for the powder, which was constructed so that the powder did not lodge in the corners. By their lamp it would be possible to get an exposure of a minute's duration, if required. He claimed for it that it would be one of the simplest lamps in the market. Mr. Cameron moved a very hearty vote of thanks to Mr. Ayton, from whom they had all, he said, learned a great deal.

Mr Ayton, in acknowledgment, said he was very pleased to

help the Society. He could not see why there should be any great diversity of opinion between the professional and the amateur photographer. It would take the amateur a very long time to do the professional any harm; in fact, he rather thought it was the other way, and that the amateur had done the professional a great deal of good.

In order to carry to completion their scheme of awards which was agreed upon last spring, the Edinburgh Photographic Society are to hold a competitive exhibition of members' work in the Architectural Hall, 42, George Street, from the evening of Wednesday 4th to the evening of Saturday the 7th inst. Three medals are to be awarded, the President's for the best picture taken at any of the Society's Saturday rambles during the summer; and two by the Society, one of which will be for the best picture (landscape) from a negative taken since 1st of January of this year, and the other for the best figure study, not being a portrait, also taken since 1st January of this year. Voting papers have been issued to the members, in order that the Council may ascertain the opinion of the membership on the merits of the exhibits. From what the President, Mr. Blanc, said at the last meeting of the Society, however, it seems to be the intention of the Council to award the medals themselves, the votes of the members being only intended as a guide to them. Among the regulations for the competition it is provided that all the pictures must be the work of the exhibitor, exposing, developing, retouching, printing, and toning, and that the prints securing the medals shall become the property of the Society.

Among the arrangements of the Edinburgh Photographic Society for the ensuing winter are, besides papers of interest, demonstrations on enlarging, lantern-slides, and intensification, the exhibition of the AMATEUR PHOTOGRAPHER 1891 Prize Lantern Slides at the January meeting, two popular evenings in Queen Street Hall, at the first of which Mr. W. Lamond Howie, F.C.S., will give his experiences of a trip to Ober-Ammergau in 1890, and at the second the work of members will be shown. The first of these popular evenings will be on Wednesday 16th December, and the second on Wednesday 24th February, 1892.



Notes from the Liverpool Centre.

(BY OUR DISTRICT EDITOR.)

NOT since the high-water mark reached during the big Liverpool exhibition in the early part of this year has such a large and fashionable audience been got together here for a lantern evening as that which attended to hear Mr. Charles W. Hastings at the City Hall, Eberle Street, last Thursday. There were not wanting signs, either, that the art-science is making rapid headway amongst us. I particularly noted the tone of the gathering, and found it distinctly better informed and more critical than was the case during the March show. Obviously the exhibition was not held in vain. Of course, Mr. Hastings has already made a name and many friends when in Liverpool, and the success of Thursday was due not only to the excellence of the Prize Slides but in no small measure to his personality. He is undoubtedly one of the most successful as he is one of the most popular lecturers we have had in these parts. Referring to the meeting, the *Liverpool Daily Post* says:—"Last night an interesting exhibition of photographic slides was given in connection with this association before a large audience in the City Hall, Eberle Street. The first half of the evening was occupied by the showing of some 160 prize slides from the AMATEUR PHOTOGRAPHER of the present year. All the pictures exhibited were of extreme beauty and finish of technique, looking on the screen like finely executed steel engravings. Mr. C. W. Hastings, Editor of the AMATEUR PHOTOGRAPHER, described the pictures in racy and original comments, each being much appreciated by his hearers. The entertainment concluded with the exhibition of a new set of American slides, eighty in number, just received from the Boston Camera Club, consisting of scenes in the famous Yosemite Valley. Mr. F. B. Illingworth read the descriptive lecture. The powerful oxy-hydrogen lantern was supplied by Messrs. Archer and Sons."

I understand that at the annual meeting of the Society in November, Mr. E. M. Tunstall, the energetic secretary of the Liverpool Society will submit his resignation owing to business engagements. This step will be much regretted by the members.

"Amateur Photographer" Monthly Competition.

No. 30.—INLAND SCENERY.

Medlock Hall Farm ...	A. Riding, Manchester	Miller's Dale ...	T. F. Marshall, Richmond
One of the Patriarchs ...	G. Bennett, London	Dunstaffnage Castle ...	J. Henderson, junr., Glasgow
Coombe Dingle ...	J. J. Hill, Bristol	Watergate Cottages ...	J. H. Thornton, London
Shady Lane, Addington ...	G. Waters, Croydon	Sally's Cottage ...	J. R. S. Tressillian, Dublin
Grasmere ...	R. T. Kingsford, Cambridge	A Drive from the Lee ...	Miss E. Annesley, London
Ledbraes Walk ...	Mrs. H. Bury, London	Dog Park Bridge ...	A. Nicholson, Leeds
"At Evening it shall be Light"	J. L. Mackrell, Liverpool	Knaresborough Castle ...	W. Bottom, Leeds
Aberglaslyn Pass ...	A. M. Geddes, Dublin	Loch Katrine ...	Miss Ellen Stone, Willesden
Cattle, Moor Park ...	H. Smith, Highbury	Konig Lee ...	Miss F. A. Pirie, Aberdeen
On the Nidd ...	A. Spavin, Hull	On the Avon ...	C. Smallridge, Ivybridge
View of Loddon ...	W. J. Smith, Basingstoke	A Country Lane ...	R. R. Ambler, Silsden
Trematon Village ...	A. Gillespie, Shorncliffe	Wharnclyffe Crags ...	W. Maugham, Sheffield
Collingbourne Village ...	E. Gauntlet, Peckham	Birch Trees ...	John Norton, Sheffield
Hamstead Heath ...	G. Pascoe, London	Quiet Spot ...	T. Clarke, Witley
Virginia Water ...	H. Bentley, Louth	Bridgenorth ...	H. P. Holmes, Halifax
Bit of a Wild Bank ...	H. Irving, Darwen	A Kentish Village ...	E. R. Ashton, St. Leonards
Village Stocks ...	P. A. Creeke, London	An Old Village ...	W. V. Mingard, London
The Firs, Hampstead ...	E. Yerbury, London	Tindefoss ...	H. McMaster, Port William
Rigg Mill ...	T. T. Salter, London	Corwen Road Bridge ...	J. G. Barrow, Ruthin
On the River Avon ...	Buchanan Young, Edinburgh	Alconbury, Weston ...	Hon. Miss Mabel Benyon, Huntingdon
Harnham ...	G. White, Salisbury	Flooded ...	W. B. Dart, Torrington
Peep towards Dovedale ...	H. Meynell, Cheadle	Hardcastle Crags ...	S. Wilkinson, Bradford
Fjaerlands Fjord ...	J. J. Rix, London	Near Llangollen ...	J. H. Spencer, Chester
Waning Day ...	E. Jeffrey, London	Lower Slaughter ...	A. C. Nicholl, Cheltenham
Twilight in Winter ...	H. Leach, Stoke-on-Trent	At Rest ...	F. R. Ball, London
Windermere ...	J. Kersley, Reigate	Rumbling Brig ...	S. G. Richardson, Tranent
Hampshire Home ...	A. E. Barker, Cambridge	Restormel ...	A. H. Rowe, London
Dovedale ...	T. Taylor, Birmingham	St. Catherine's Hill ...	A. B. Dowling, London
Fairlight Glen ...	W. Setehell, London	Berkshire Homestead ...	A. Wiggington, London
Crab Inn, Shanklin ...	W. R. Parks, London	A Devonshire Village ...	G. E. Harris, London
Battersea Park ...	J. Wheeler, London	At Roydon ...	S. G. Jardine, London
Trees in Kew Gardens ...	C. Mead Child, Kew	Rigg Mill, Whitby ...	D. G. Pinkney, Enfield
Rock, Dartmoor ...	R. Prance, London	The Race ...	Bernard Lintott, Horsham
Craig Pool ...	Miss C. Lamb, Brechin	Marbles ...	Stuart Marsh, Penge
Richmond Castle ...	W. Emmett, South Shields	Fairlight ...	F. W. Meadway, London
Auchinchoyle Glen ...	E. Brown, Edinburgh	Sunset in the Pyrenees ...	L. J. Steele, Holland Park
Near Nailsea ...	W. Grimwade, Bristol	Netley Abbey ...	W. E. Noar, Southampton
Wait for Me ...	G. Carruthers, Liscard	Shanklin ...	F. Hill, Watford
Kinness Burn ...	H. Bury, London	Through the Wood's Shelter ...	W. J. Farthing, Chirk
Castle Walk, Roundhay Park ...	A. C. Beilby, Leeds	A Bit of Kenilworth ...	J. A. Hogg, Birmingham
Poole Hole Water ...	S. L. Coulthurst, Manchester	View on the Wharfe ...	C. Brittain, West Hartlepool
Beside the Still Waters ...	F. E. Butcher, London	The Bungalow ...	V. Burrow, London
In Buckhurst Park ...	W. Miles, London	A Well in Spain ...	T. Kidd, Linares, Spain
Somerset Village ...	H. E. Pitman, London	In the Val di Bregaglia ...	Miss Watson, Florence
The Spa ...	T. H. Tarbet, Grangetown	The Coming Shower ...	H. Goodwillie, Dublin
Eastham Cottage ...	J. S. Roscow, Bolton	The Kissing Bridge ...	R. F. Lowndes-Norton, Newton Abbot
Foot Bridge over the Steyr ...	T. W. Melhuish, Vienna	Pastoral, Bolton Woods ...	D. Entwistle, Bury
Near Kendal ...	E. P. Hale, Gatebeck	An Intruder in View ...	Thos. Drapes, Enniscorthy
A Lonely Spot ...	H. Bellfield, Bristol	An Old Rajah's Tank, Assam ...	John A. Macadam, Assam
Bolton Woods ...	R. Kadelbach, Salford	The Meeting Place of Bygone Days ...	Geo. Preston, Saltash
Evening in Monsal Dale ...	S. G. Bradburn, Manchester	Dunloskin ...	M. Sinclair Paterson, Paddington
Pass of Killiecrankie ...	E. Drewett, London	A Forsaken Road ...	G. G. Ruel, St. John, New Brunswick
Tumble Lane, Budleigh ...	Miss E. Bishop, Exeter	On the Banks of Loch Lomond ...	Fred. G. Paterson, London
Water Row ...	Henry Rendall, S. Molton	Velvet Lawn ...	R. K. Jowett, Aylesbury
Miller's Dale ...	J. Kauffman, London	Haddon Hall ...	A. Ealand, Kirkby Lonsdale
A Farm House ...	Rev. C. Gape, Rushall	Dunster ...	W. D. Ashburn, Bransgrove
Bishop's Wood ...	John Stabb, London	View in Glen Esk ...	D. Petty, Stamford Hill
In the Lledr Valley ...	Henry Holt, Liverpool	Landseid, near Whitby ...	A. W. Lithian, Tooting
Dovedale ...	John Welsh, Liverpool	A Bit on the Llwydcoed Feeder ...	J. D. Hutcheson, Aberdare
Claremont Woods ...	Miss F. Bunker, London	Near St. John River, New Brunswick ...	F. H. J. Ruel, St. John, New Brunswick
Clumber House ...	E. T. Roberts, Manchester	Duddingston Lock & Church ...	W. W. Ritchie, Portobello
Butler's Lodge, Glaserton ...	W. T. Hawthorn, Whitborn	Near Borthwick Castle ...	W. S. Anderson, Edinburgh
When the Day's Work is Done ...	A. Pettie, Sunderland	Tylehurst Village ...	J. A. Booth, Reading
Eventide ...	W. H. Trigg, Southampton	Cottages near Henley ...	J. Harriman, Henley-on-Thames
Horseshoe Falls, Llangollen ...	Miss H. C. Myers, Newbury	Paddy's Castle ...	S. Armstrong, Enniscorthy
Palazzo Foscarini, Venice ...	Miss Georgina Ffrench, London	A Devonshire Lane ...	E. Winn, Selly Hill
The Home of the Trout ...	John R. Bayley, London	Sunshine in Turvey Dell ...	A. H. Beaman, Bedford
Waterfall ...	J. B. Waters, Morpeth	A Peep of Tavistock ...	Perceval G. Bull, Lydford
In Simpson Clough ...	T. Leach, Rochdale	Bridge over River Wharfe ...	L. A. Corbould, Leatherhead
Glendwr ...	H. R. Taylor, Birmingham	A Surrey Lane ...	Albert H. Payne, Brockley
Beech Trees ...	H. J. L. J. Massé, London	Windsor Castle, from the Fields ...	R. McDougall, Kilburn
Old Manor House ...	A. Silver, jun., Wolverhampton	Old Cottages, Letterfearn ...	E. G. Gallettly, Edinburgh
Glen Penmaenmaur ...	H. Metcalfe, Southport	Drummers' Quarry, Derwent ...	J. R. Hughes, Chester-le-Street
Thatched Cottage ...	C. C. Tunks, London	The House on the Marsh ...	Tom Cowling, Wisbech
Black Forest Road ...	Hans R. Werdmuller, London	A Cottage at Burton, Cheshire ...	M. R. W. Shand, Mollington, Banastre
Rendezvous ...	J. R. R. Wilson, Manor Park	A Wayside Inn ...	A. Wilkinson, Manchester
Nant Mill Falls ...	F. A. Jeffrey, Hailsham	An August Morning ...	Geo. T. Frith, Wakefield
		A Surrey Lane ...	R. J. Hillier, Hackney
		The Burn, St. Andrews ...	A. Rayner, Edinburgh
		Bonchurch, Isle of Wight ...	Joseph Thompson, Burton-on-Trent

Bridle Path, Beddington ...	F. J. Elkin, Waddon
Old Tree in Kingston Church- yard	Mrs. E. Bird, Kingston
Hugdon Mill Pond ...	M. S. David, Rossall
Marston Church, Somerset...	W. Cooper, jun., Frome
Summit of M. Portofino ...	S. C. Bright, Genoa
Ponte del Castello della Pictria	F. Passadero, Genoa
A Mule Track, Island of Ægi- na, in the Saronic Gulf...	Dr. Ringrose Atkins, Waterford
On a Welsh Hill-side ...	J. Oswald Bury, Wrexham
Rigg Mill, Whitby ...	Douglas Smith, Giggleswick
The Home of the Woodman	W. J. Morris, Lightcliffe
"The Flask," Enfield ...	Jas. Dudin, Enfield
A By-path	Percy Sheard, Birstall
Westbury-on-Trym ...	Chas. A. Brightman, Bristol
The Priory	Carl Muller, London
Lincoln Cathedral, from the River	W. Moore, Lincoln
Royal Military College ...	Capt. C. F. Cromie, Camberley
Withersfield, Suffolk ...	Rev. G. F. Sharland
Wardley Hall, Worsley ...	H. E. Chorlton, Bury
Old Falls, Sulby Glen, Isle of Man	Henry Shimwell, Birmingham
Photographs received without name or entry form:—"On the Esk, Arnccliffe Woods."	
Photographs received unmounted, therefore disqualified:—"The River Len," A. W. Williams; "Little Malta," H. A. Couchman.	

Societies' Meetings.

Aberdeenshire.—The following is a list of office-bearers for the current session, which were elected on Tuesday, the 27th ult.: Hon. President, James McKenzie Davidson, M.B.; Hon. Vice-President, Thomas Ferguson; President, W. Todd Moffatt; Vice-Presidents, Messrs. J. Clark and W. G. Lindsay; Committee, Messrs. J. Main and A. McKilligan; Secretary and Treasurer, Mr. G. Brodie. At the meeting, besides electing these office-bearers, the rules, as drafted by the Committee, were discussed and amended, and the meetings fixed for the last Tuesday of the month, for the time being to be held in the Cafe Rooms, though the Committee hope shortly to secure accommodation elsewhere. Although not yet a fortnight old, the Society has over thirty members, and is in a fair way to number twice that before next season. Ladies are eligible for membership. The Committee hope ere next tourist season to found dark-rooms in the more important places of resort in Aberdeenshire, a great want in many places in the highlands. Already one or two have been secured along Deeside, but as the season is now over, they do not feel justified in expending money on the matter till next year.

Barrow.—A meeting was held of the photographic section of the Barrow Naturalist Field Club on the 26th ult. Mr. J. Howson gave a demonstration on lantern-slide making and printing. Mr. Howson was introduced by Mr. A. Blechynden, the Chairman, and President of the section. The first part of the meeting was occupied by toning and fixing several prints. The prints were quite free from curling, which is so objectionable in some papers. He then exposed four lantern plates with the following exposures:—6 secs., 12 secs., and 18 secs., to a gas burner, and one to a wax match, and developed them in one bath. These slides were handed round to the audience, and it was almost impossible to find any difference in their appearance, the results being very good. One of these slides was afterwards shown through the lantern, and the audience expressed their satisfaction by hearty applause. Mr. Howson showed some slides, and Mr. Timms projected the pictures on the screen. The next meeting was announced to be on Nov. 26th, when the AMATEUR PHOTOGRAPHER 1891 Prize Slides will be shown.

Brighton.—A meeting was held on the 27th ult., the President in the chair. Mr. Percy Morris read a paper on "The Development and Printing of Hand-camera Negatives," and developed a negative. He advocated the use of hydroquinone for negatives, and printing on bromide paper, developing by ferrous oxalate. In future the Society's meetings will be held at the Lecture Hall, New Road.

Cardiff.—The ordinary meeting was held on Friday, the 30th ult., the President (Mr. C. F. Gooch) in the chair. Mr. W. H. Kitchen and Mr. F. C. Webber, jun., were appointed auditors, and Mr. W. Coeks was elected a member. After disposing of the ordinary business Mr. T. H. Faulks gave a demonstration upon a "New Printing-out Paper," and handed round a number of prints prepared by himself. Next Friday Mr. F. Cadd, of "Wild West" experience, will give a lecture on "Life in the Far West," illustrated with slides taken by members during the visit of Buffalo Bill's show to Cardiff. Friends are invited.

Cornish Camera Club.—A meeting was held on the 30th ult. A

number of slides lent by Mr. A. R. Dresser were passed through the lantern, and admired by a large audience.

Douglas (Isle of Man).—At the meeting on the 27th inst., a demonstration, "Photography by the Flash-Light," was given by the members, Messrs. Harrison, Windsor, Thomson, and the Secretary, the President posing the groups, etc. Amongst others "The Auctioneer," in which Messrs. Windsor, Brearey and Lupton took part, caused considerable amusement. Good negatives were secured, and it was decided to repeat the experiment on a larger scale at an early date.

Enfield.—At the meeting held on the 28th ult., Mr. W. H. Trewartha James read a paper entitled "Notes on Hand-cameras," which was listened to with marked attention. The paper dealt firstly with those parts common to all hand-cameras, viz.: (1) The lens, which was considered the most vital and important part of the instrument, and which, therefore, ought to be of the best quality money could buy. The various features of the principal types were fully discussed, and especial mention made of the comparatively new form of lenses made with Jena glass. (2) The shutter, its best position and most suitable pattern. (3) The form of the dark chamber, viz., box and bellows. (4) The methods of registering, exposing, adjusting, and changing the sensitive surface, classified into (a) box changers; (b) dark slides of various forms; (c) magazines pure and simple; (d) automatic and semi-automatic changers utilising gravity; (e) roll-holders and other film changers; after which the various extra features, accessories, and adjustments were dealt with, viz.:—View finders, including twin-lens mounts; reflecting mirrors, etc.; exposure counters, automatic counters, safety and secondary shutters; attachments for tripod work, special focussing adjustments, sliding lens, mounts, etc.; stops and diaphragms. A fine show, including many of the best types of instruments in the market, in addition to several very clever home-made and home-designed cameras by members present, was presented:—(1) Bag changers: Reflecting type, Watson's Vanneck, with prints an 12 by 10 enlargements, by a member; Rouch's Eureka, with some fine specimens (which were much admired); the Talmer 1890 type; the Talmer improved, Dollond and Co.; Samuel's patent, Dollond and Co.; the Dot, Hockin and Wilson. (2) Dark slides and roll holders: Reflecting type, Loman's Reflex (Mawson and Swan), received high commendation; Shew's half-plate Eclipse, and with some magnificent whole-plate and half-plate direct prints, received special attention; the Beck, a first-class style of camera; the Key, much admired for its ingenious double-back and general compactness; the Baird (not received in time). (3) Magazine changers: The Optimus, Swinden and Earp; Kodak, kindly lent by Mr. Green, Goy and Co.; the Robus, W. G. Roberts, with an album of high-class specimens; the Facile (not received in time); a large collection of good specimen prints. (4) Automatic and various well; The Presto, with the improved shutter, brake, etc.; the Radial, Marion and Co.; the Griffin, J. J. Griffin and Co.; the Repeater, Dollond and Co.; the Omnigraph, Lancaster and Co. The walls were decorated with frames contributed by some of the members, also the prize hand-camera pictures.

Kendal.—The monthly meeting of this section was held on the 28th ult., Mr. Frank Wilson, J.P., in the chair. The subject for the evening was "Criticisms of the Photographs contributed by the Members to the late Exhibition," consisting of two papers read by Messrs. Frank Wilson and Samuel Rhodes, followed by discussion. The photographs were all arranged in the room, and each frame criticised separately. Many hints as to posing, lighting, balance, tone, etc., were given, and the subject proved a most interesting one. Mr. and Mrs. Wilson kindly showed a number of recent photographic novelties. Messrs. J. E. Singleton and Arthur H. Rhodes were elected members of the section. The next meeting will be held on November 11th, when the AMATEUR PHOTOGRAPHER 1891 Prize Slides will be exhibited and explained. The committee will be glad of the company of members and their friends.

Lantern Society.—On the 26th ult. a new oil lamp, designed by Mr. Stocks, was tried. This lamp possesses several points of difference to other lamps on the market, the principal ones being, firstly, that the interior of the lamp is so arranged that the whole of the flames from the four wicks are utilised, instead of the lower portion being obscured, as is usually the case, and, secondly, that the chimney is adjustable in length by means of a rack and pinion, so enabling the draught to be regulated. In the ordinary four-wick lamp, in order to get a proper flame, it is necessary to turn the wicks up very gradually and allow some time to elapse before getting them to their full height; in this lamp the full power is obtained in a few seconds. The lamp was tried practically against two commercial four-wick lamps, both of which give a good light as oil lamps go, and proved far superior to either both in purity of colour and in quantity of light. The experiments made tended to show that one of the chief practical advantages of the lamp would be that it might be relied on to give its full power under all circumstances.

Leicester.—The first meeting after the summer recess was held on the 28th ult., the President (Mr. J. T. Cook) in the chair. The

minutes of the last meeting were read and confirmed. Mr. Thomas Scotton, of the Derby Photographic Society and an hon. member, then proceeded to deliver his lecture, entitled "A Trip to the Isle of Man." The lecturer proceeded, in his characteristic, racy style, to describe the various incidents connected with a journey from Liverpool to the island, and illustrated the lecture with some very good slides from negatives taken by himself. At the close a number of slides of various description were put through the lantern.

Liverpool.—The ninth ordinary meeting of the twenty-eighth session was held at the Association Club Rooms, 3, Lord Street, on Thursday evening, 29th October, Mr. Paul Lange, President, in the chair. Messrs. J. S. Craig, G. A. Carruthers, T. A. Moulton, J. Medcalf, and Geo. Moore were unanimously elected members of the Association. A report was made by the President on the excursion to Lathom House, on Saturday, Oct. 17th. It was announced that the next fortnightly practical demonstration would take place on Wednesday 4th November, when Mr. Edwin Banks, an old experienced worker, would deal with the subject of the "Wet Collodion Process." A little later on Mr. W. B. Beaton would demonstrate on "Bromide Enlargements," and a special meeting on Monday, 7th December would be occupied by Mr. John Howson, who would give a demonstration on the working of a new printing-out paper. The President then called attention to the arrangements that were being made for the prize competitions on the day of the annual meeting, Thursday, 26th November, when all pictures and lantern slides for competition should be sent in that day not later than 2.30, addressed to the Hon. Secretary. The following gentlemen had consented to act as adjudicators on that occasion, viz., R. Talbot Kelly, Edward Whalley, and George E. Thompson. After a discussion on several matters of interest to the members, an adjournment was made to the new City Hall, Eberle Street, where a large audience had assembled of members and friends. The first half of the evening was occupied by the showing of the AMATEUR PHOTOGRAPHER 1891 Prize Slides. All the pictures exhibited were of extreme beauty and finish of technique. Mr. Charles W. Hastings, the Editor of the AMATEUR PHOTOGRAPHER, described the pictures in a humorous and original manner, and was much appreciated by his hearers. The entertainment concluded with the exhibition of the new set of American slides, eighty in number, just received from the Boston Camera Club (U.S.A.), consisting of scenes in the famous Yosemite Valley—Mr. F. B. Illingworth read the descriptive lecture. These slides now go on circuit, and have been largely booked up to April next. The powerful oxy-hydrogen lantern was supplied by Messrs. Archer and Sons. The annual meeting of the Society takes place on 26th November. The Hon. Secretary (Mr. E. M. Tunstall) will, it is understood, resign his office at the meeting, the pressure of business engagements not allowing him sufficient time for the performance of the duties of the secretaryship.

Newport.—The ordinary meeting was held on the 27th ult. Notwithstanding the inducements of a prize collection of hand-camera pictures on loan for the evening, and the technical paper prepared by the Hon. Sec. on "Interior Photography," the attendance was so small that the latter portion of the evening's programme was postponed.

Oldham.—The annual meeting was held on the 29th ult., the President (T. Heywood) presiding. The minutes of the last annual meeting having been read, the following gentlemen were nominated for membership:—Messrs. W. Lees, J. Ogden, T. Wild, and F. Wilkinson. The secretary next read the report for the past year and the treasurer's statement of accounts, which was confirmed, after which the election of officers for the ensuing year took place, the following being elected:—President, Mr. Wallace Thompson; Vice-President, Mr. J. Chadwick; Treasurer, Mr. W. Schofield; Librarian, Mr. L. Tetlow; Committee, Messrs. J. H. Ashton, J. Brooks, J. S. Dronsfield, J. Greaves, jun., T. Heywood, W. Jackson. Hon. Secretary, Mr. T. Widdop, 16, Burnaby Street, Oldham; Assistant Secretary, Mr. W. A. Nash. During the election Mr. J. Mellan, of Middleton, exhibited a novel developing arrangement, consisting of three bottles, with pipettes for dropping, which he intends putting upon the market. A vote of thanks to the retiring officers for their services during the past year concluded the business of the meeting.

Pudsey.—The first public lantern slide exhibition under the auspices of the members took place on the 27th ult. The slides shown were the AMATEUR PHOTOGRAPHER 1891 Prize Slides. A brief description of the slides was given by Mr. H. Crossley and Mr. Stephen Kirkwood as they appeared on the screen, and the audience frequently testified by their hearty cheers—the Gold Medal slides coming in for special acknowledgment—their appreciation of the quality and composition of the pictures. One of the prize winners (Mr. F. W. Plews, Leeds, Bronze Medal, class 3), who resides in the neighbourhood, was present at the exhibition. About fifty of the slides prepared by members of the Pudsey Photographic Society were afterwards shown. Mr. Fred Halliday (Bramley) had charge of the lantern; he projected the pictures on to an eighteen feet screen, one of the largest that has ever been used in the Institute,

Putney.—The last meeting was on the 31st ult., Rev. L. Macdonald in the chair. Mr. S. H. Fry, of the Fry Manufacturing Company, gave a most interesting and instructive demonstration on bromide enlarging on their new "Naturalistic" paper. Mr. Fry first showed members the method of judging the correct exposure, giving 4, 8, 12, 16 seconds. He then proceeded to enlarge a quarter-plate negative of a yacht on the Thames to 12 by 10 in., using hydroquinone as developer, and fixed in an acid bath composed of hypo 4 oz., bisulphite soda 1 oz., water 16 oz. He showed the members that they could obtain with hydroquinone results quite equal to those by ferrous-oxalate, with less uncertainty and greater simplicity, as by the use of the acid fixer the operations could be reduced to two. He succeeded in producing two very beautiful enlargements, one of which he kindly presented to the Chairman. Not the least interesting part of the demonstration was his method of printing in clouds, by covering the foreground (after development and while still wet), and then printing in the clouds from another negative. Mr. Fry showed how simple it was to bring out flagging detail, by breathing upon the print and by local application of developer on a pad of absorbent cotton-wool. Messrs. J. B. Ball, S. Buckland, and A. E. Smith were elected members, making nine new elections during the month.

Richmond.—At the meeting on the 30th ult., the subject for discussion was "Flash-light Photography." Mr. Cembrano presided and introduced Mr. J. G. Hudson, the inventor and patentee of the "Kohm" time exposure magnesium lamp, an instrument designed to produce a sustained light with magnesium powder. Mr. Hudson fully explained the apparatus, showing how the power of the light was controlled, after which the President took two photographs of the members present, to which five and fifteen seconds' exposure were given. Other forms of flash-lamp were afterwards shown.

Tyneside.—The usual meeting was held on the 27th ult. The President (in the chair) gave a paper on "The Uses of Uncorrected Lenses in Photography." He showed how the focus of lenses could be shortened or lengthened by the use of other lenses, which gave the worker additional range of focus. Next meeting, November 10th, "Cause and Prevention of Fogging." November 24th, "Developers."

West Surrey.—The usual fortnightly meeting took place on the 28th ult. Mr. Vice-President Winsford, who has been absent from the meetings for some months owing to illness, was in the chair, and was warmly welcomed by the members present. After the usual business had been disposed of, Mr. Swingle was called upon for his demonstration of "The Development of the Latent Image." Mr. Swingle, who is a great enthusiast in hand-camera work, gave a lesson well worth following in the manner of his procedure, and the method and system shown by Mr. Swingle cannot fail to prove of great value to all present. The developer used was the usual 10 per cent. pyro-ammonia, which the lecturer maintained would always hold its own amongst the many newer introductions brought into the market to outdo our old servant. Mr. Swingle developed plates which had received various ranges of exposure, and showed thereby how by careful treatment good results might be obtained from all. The next meeting will take place on Wednesday, November 11th.



Fry Manufacturing Company's Demonstrations.—The second of this series was delivered on Friday last to a full audience. The subject, "Bromide Enlarging," was treated in a practical manner. Details of development were given, and suggestions to meet possible failures. The lecture was followed by a general discussion and questions from the audience. During the evening Griffiths' fixed-focus enlarging apparatus was shown and used. The next lecture, subject, "Lantern-slides," is fixed for Friday, November 13th, at eight o'clock.

Ideal Lantern-slide Carrier.—At our last "Monday Evening" we showed two new lantern-slide carriers, but, so far, have only called attention to that made by Mr. Beard. The second carrier, the "Ideal," is the joint invention of Messrs. James and Stodart, both very active members of the Lewisham High Road Camera Club. We could have better explained the apparatus had we an illustration, still the method of using the carrier is much as follows:—The slide should be taken from the box by holding it by the edges, so as not to touch the face of the glass, and when dropped into the carrier the slide rests upon a brass arm. When it is desired to take out the slide, a wooden peg is pressed down which actuates the arm, which in its turn lifts the slide about half an inch out of the carrier, enabling the operator to take hold of the slide by the edges and so drop it into the box without touching the face. The advantages of never having to handle the face of the slide are really too apparent to need comment. The carrier may be seen at our offices, and is being put on the market by Messrs. Perken, Son, and Rayment, of 100, Hatton Garden, E.C. We might perhaps add that the projecting peg acts as a stop to prevent the carrier, which is a double one being pushed too far through the frame,

To Correspondents.

All communications for these columns are to be addressed to **The Editor, "Amateur Photographer," 1, Creed Lane, Ludgate Hill, London, E.C.**

RULES.

1. Write clearly and distinctly on one side of the paper only.
2. Write each Query or Answer on a separate sheet of paper.
3. Write the name and address legibly on the back of each communication, and sign all Queries and Answers with name or *nom de plume*.
4. All matters for these columns MUST be received by **TUESDAY MORNING'S POST**.
5. The Editor does not undertake to answer questions by post.
6. In answering Queries, correspondents are requested to mention, in every instance, the number and full title of the query referred to.

QUERIES.

5182. **Size of Image.**— f equals focus of lens if 6 ft. is represented on the ground by y inches at 10 yds.; what will be the size of image of an object of n ft. at p yds.? Is this soluble? If so, please give formula.—B.

5183. **Enlarging.**—I have a Lancaster's Maltum-in-Parvo enlarging camera, and wish to enlarge by artificial light. Can I do this in any way? Any hints will oblige.—FLYCATCHER.

5184. **Arcanum Hand Camera.**—Will some reader who has used Talbot and Eamer's Arcanum hand-camera give me the following particulars: size of camera, method of changing plates, is the shutter self-setting, rapidity and quality of lens?—STYX.

5185. **Blisters.**—Will some reader kindly tell me why my prints blister after taking them out of the fixing bath? I use about 3 oz. of hypo to a pint of water. I notice in a few cases when the prints are mounted these blisters have almost entirely disappeared, but in others they turn to white spots. Is my fixing bath too strong?—RTBY.

5186. **Lerebours Lens.**—I have a 5 by 4 old box camera with sliding arrangement for focussing and a rackwork lens by Lerebours. Is the lens of any use for present dry plate process, or will the lot make an enlarging lantern?—APLANATIC.

5187. **Windsor Castle.**—Can any brother amateur lend me a negative of Windsor Castle with the river in the foreground, and any river scenery, to make a lantern slide? I would take great care of it and pay any expenses, or would lend some negatives (quarter-plate) of Antwerp, etc., I have taken this year. Address with Editor.—W. H. S.

5188. **Enlarging Lantern.**—Can any one give me instructions how to make a lantern that would fix behind a camera and so make an efficient enlarging lantern?—J. C. W.

5189. **Iford Rapid and Special Plates.**—I find the following a good developer and get good results on Iford plates (ordinary):

Pyro 2 gr.
Bromide 2 "
Liquor amm. 4 min.

to each oz. of developer. Would some one tell me how to mix these to suit Iford rapid and special rapid plates, or tell me a good pyro developer for each?—LEARNER.

5190. **Lantern Slide Colouring.**—Will any reader let me know how to use Whittaker's lantern slide colours (transparent)? Have they to be used as they are, or have they to be diluted with water, etc.?—R. H. MICHIE.

QUERIES UNANSWERED.

Oct. 30.—Nos. 5166, 5168, 5169, 5171, 5172.

ANSWERS.

5091. **Platinum Toning, Clark's.**—Mr. Clark's formula is for black tones and the Dictionary formula for warm tones; the number of prints either solution will tone obviously depends upon the character of the print, as it is a substitution of platinum for silver, and the more reduced silver the fewer prints will the bath tone. It is better to mix the toning solution as required, but the chloroplatinite may be kept in solution.—OSIRIS.

5104. **Stereoscopic Moon.**—Will "T. B." communicate with "A. E. D." Address with Editor.

5113. **Photo-lithography.**—Apply to Mr. W. T. Wilkinson, 17, Farringdon Street, London, E.C.—OSIRIS.

5122. **Celluloid Screen.**—Make four strips of wood of same length as the sides of your screen and about 8 in. square in section. Fix these with glue at the

back of your screen to take it close to the rebate on all sides. This will improve matters, but ground plate-glass is preferable.—THE SMITH.

5123. **Lens.**—Your 12 in. lens should cover 10 by 8 well if stopped down to $f/32$, and by using the smallest stop, $f/64$, a 12 by 10 photograph may be taken, but with some falling off in the definition towards the corners of the plate.—THE SMITH.

5124. **Changing Box.**—I have seen many, but not one arrangement that can be depended upon to keep the plate in correct register.—THE SMITH.

5132. **Painted Slides.**—The small specks are dust which settles on the film while drying. Professional slide painters always water their floors and dry the slides film downwards in dust-proof cupboards.—OSIRIS.

5139. **Opals.**—Equally fine results are obtained on these as by using transparency plates and ground glass, but the latter let more light through and opals are very dear. Carry development on till the opal looks decidedly blocked up in the shadows when examined by transmitted light.—OSIRIS.

5141. **Mountant.**—The following will, I think, meet your requirements, viz.: Soak $\frac{1}{2}$ pound of best glue in cold water till soft, melt the glue in kettle, or earthenware jar standing in a saucepan; when quite thin, pour in gradually ethylated spirit, stirring well between each addition until quite clear. Strain through coarse muslin into pickle bottle, well cork, and store away for use. When wanted, stand bottle in hot water till gum is melted.—W. H. ELLIS.

5145. **Obernetter Paper.**—Do you print in the sun? If so, avoid, and print in the shade. I would not use the formula given by the maker, but the following, which I can strongly recommend, having toned hundreds of prints with same to perfection: Dissolve $2\frac{1}{2}$ drms. of sulpho-cyanide of ammonium in 16 oz. of hot water, when cool add $2\frac{1}{2}$ drms. of a fifteen-grain solution (1 drin. to the gr.) of gold. When cold it is ready for use. After well washing prints soak before toning in alum bath, $\frac{1}{2}$ oz. to half a pint of water. Leave in for three minutes, well rinse and place in toning bath. When the desired tone is reached, which can only be told by looking through the paper, transfer without washing to fixing bath, 1 oz. of hypo to 8 oz. of water. In eight or ten minutes remove prints and wash (if possible) in running water for three hours. Almost any tone can be got, from dark red to a beautiful velvety black, and all the above solutions can be used over and over again until exhausted.—ZEBA.

5148. **Subject.**—I don't see why photography should not be used for any subject. If you are careful to make a picture of it, it is sure to look nice. Remember when arranging the picture not to take the colours into account too much, but pay most attention to the masses of light and shade. Many things which look very pretty as water-colour sketches look very tame as photographs, for almost their whole charm is in the colouring.—TE WIERING.

5149. **Patent.**—First write to the Comptroller of the Patent Office for instructions, and he will forward full particulars. Second, go to the Patent Office Library, which is open from 10 a.m. to 10 p.m. daily, Saturdays included. There you must make a diligent search, and if you find nothing like or near it, proceed to take out a provisional patent, the stamp for which is £1. This can be obtained from the General Post Office. This will last for nine months. Before the end of the last month the full specification must be sent in, the stamp for which is £3. Time of patent, fourteen years, subject to extra payments after four years from date of first application.—WILLIAM BEYER.

5150. **Ideal Hand-Camera.**—The focus is not absolute, but depends upon the aperture of lens. See the Quarterly Examination, answer 3, p. 262, Oct. 9, 1891.

5153. **Nitrate of Silver.**—You do not state whether it was pure silver or not, but knowing the weight of silver it is easy to calculate out the strength of your bath—thus, every 108 gr. of pure silver will produce 170 gr. of nitrate of silver; measure the bulk of your solution, and you can at once find the number of grains per oz. by dividing 170 by the number of ounces in your solution. To strengthen it you must either add pure nitrate of silver to make it a certain strength, or must evaporate the solution by means of a gentle heat till the bulk is sufficiently reduced to give you the desired strength. You can, of course, estimate the strength of your bath by an easy volumetric test, but you give so few data that one is in the dark in answering you. If you like to send another query, stating full particulars as to weight of silver used, whether pure or not, the total bulk of your solutions, what you want it for, I shall be pleased to answer again.—OSIRIS.

5154. **Oxygen Gas Bag.**—Make a thick solution of soap, and spread over the suspected part. Pressure on the bag will at once make bubbles.—OSIRIS.

5156. **Burnishing Prints.**—You are most likely not using a strong enough mounting solution, as the prints should not strip off the mounts during burnishing. Rub the print over with dry Castile soap, applied with a tuft of cotton wool, before burnishing.—BLISTER.

5158. **Athens, etc., Photographs of.**—W. A. Mansell and Co., Oxford Street, W., have a fine collection of Greek and foreign views, etc.; they will send you a catalogue, and on deposit of money will forward you an approval parcel.—OSIRIS.

5160. **"Bruno" Statue, Rome.**—See answer to

5158. Mansell's have a fine collection of Roman antiquities, and if not the one in question would get one for you.—OSIRIS.

5161. **Flash-Light Photography.**—In answer to "Amateur," if he really requires full instructions in this work he cannot do better than purchase a copy of R. Slingsby's "Flash-Light Photography," price 4s., and can be had of the publishers of this paper.—W. H. ELLIS.

5162. **Aristotype Paper.**—Your faults rest with yourself, it being in no way, as far as I know, anything to do with either the paper or chemicals you use. Print a little darker and soak your prints in alum before toning. (2) You have your toning bath warm and have not enough toning solution in the bath.—W. H. ELLIS.

5163. **Camera Bellows.**—"W. D. K." does not state shape of bellows he wants, and whether for long or short focus. Decide upon suitable size, and cut a sheet of paper to size; any bookbinder will sell you a piece of paste or Turkey grain roan, price about 2s. to 3s.—PITT.

5165. **Enlarging Apparatus.**—The space allowed for answers in this paper will not permit an answer containing full instructions in this line of photography, it occupying such a lot of space; but upon securing your address I will forward to you, or perhaps, better still, if you have not the "Dictionary of Photography," by E. J. Wall, I should advise you to get it at once, as it contains all the information an amateur needs in this and other subjects in photography.—W. H. ELLIS.

5165. **Enlarging Apparatus.**—Procure a good packing case with a lid; in one side of it make a hole to take the negative to be enlarged. This can be held in position by little turn-buckles of wire. In the bottom of the box fix a metal cone or other arrangement for letting out hot air, but not light; inside the box, with its chimney connected with the cone, place a powerful oil lamp, with an opal globe to diffuse the light. Bore several holes in the lid of the box (it being now upside down), to promote combustion. If you have not an opal globe, you must use a sheet of ground-glass between the lamp and negative. The box made, and the negative being in its hole film side out, the camera is placed close up to it, when an enlarged image will be thrown on to an easel or other support placed to receive it, at a suitable distance. A door should be made in the box opposite the negative, to admit the lamp. A lining of sheet tin would also improve it.—PEN.

5167. **Lenses.**—In reply to "T," he will find in most books on photography that a rapid rectilinear lens is the most useful form of lens for every form of work done by an amateur, and I think he could not do better than first of all have a look at a Wray's rapid rectilinear lens, which is a splendid lens.—W. H. ELLIS.

5170. **Condenser.**—The best form of condensers will be found in the "British Journal Photographic Almanack, 1888." A 6 in. condenser would do, but 8 in. is better.—W. H. ELLIS.

5173. **Micro-Photographing.**—This query is impossible to answer exactly, as the exposure depends on the subject, length of camera, and aperture of objective. The amount of illuminating power for the same magnification will vary as the squares of the numerical aperture, that is for dry lenses as the squares of the sines of half the angular aperture, and as inch objectives vary from about 16 to 30 deg., the latter will admit about three times as much light as the former. For the case given by "G. T. R.," or one rather similar to it, Mr. Davis gives in "Practical Microscopy," with 24 in. focus camera, 3 in. focus bullseye condenser, and an inch of 25 deg. objective, a proboscis of blowfly, an exposure of 20 sec. as correct. "G. T. R." had better find out experimentally with his appliances what exposure is required to give a good dense deposit on his plate without any object, and then he will be able to judge the proper exposure for various objects by comparing their brightness with that of the field.—J. G. P. VERSEK.

5174. **Platinum Toning.**—Get Clark's "Platinum Toning," price 1s. of Hazell, Watson, and Viney, Ltd., or any dealer.—PEN.

5174. **Platinum Toning.**—The prints should be rather deeply printed till the high-lights begin to get degraded, and the print should be then well washed in water to remove free silver, and for black tones the following used either by floating or brushing on:

Chloro-platinite of potash $\frac{1}{2}$ gr.
Distilled water, up to 2 oz.
Nitric acid 2 or 3 drops.

Tone till all redness has disappeared when viewed by transmitted light. For warmer tones, dilute the above with three times the quantity of water, and immerse the prints in this till the desired tone is reached. After toning, pass the prints into a dish of water rendered distinctly alkaline by carbonate of soda or ammonia, then into the usual hypo or fixing bath, whence they may be taken and washed as usual. Matt-surfaced or plain salted paper gives the best results.—BLISTER.

5175. **Black or Greyish-Black Tones.**—The following is taken from Wall's "Dictionary of Photography":

Chloride of gold 1 gr.
" lime 1 "
" soda 1 "
Distilled water 5 oz.

This is said to give fine even blacks, the salt acting as

a restrainer, and preventing unequal deposition of gold. Bleaches considerably. —BLISTER.

5176. **Bellows of Camera.**—I should say a small loop attached on to the bellows of the camera with a piece of round elastic, such as is used by ladies, run through it and fastened to the top of the back and front of camera would cure the fault the "Dear Dooke" complains of. —J. G. P. VERREUR.

5177. **Enlarging Lantern.**—I refer the author of this query to my answer to query No. 5165, in this week's paper. —W. H. ELLIS.

5177. **Enlarging Lantern.**—A full description of what you want may be found in Wall's "Dictionary of Photography." You can't do better than invest a modest 2s. 6d.—ISO.

5178. **Yellow Stains.**—This subject is often in this column, but the following method has been suggested for removing the yellow stains from negatives, caused by either prolonged development or insufficient washing:

Hyposulphite of soda .. 1,000 grams.
Water 4,000 c.c.

To which is added—

Sulphocyanide of ammonium .. 120 grams.
Powdered alum .. 20

This is allowed to stand for several days, being stirred occasionally, after which add 150 c.c. of a chloride of gold solution, 1:200. This solution is then decanted to get rid of sediment, and the stained negative soaked in it for half an hour, when the colour will be found to be of a beautiful violet-black or grey-blue tone, finely adapted to printing. Great care must be taken in mixing the solution. —W. H. ELLIS.

5179. **View Meter.**—A view meter can be obtained at most photographic material dealers', but the one described in E. J. Wall's Dictionary can be made by amateurs. —W. H. ELLIS.

5180. **Halation.**—Back the plate, use a bromo-iodide emulsion, or plates coated on ground glass, or better still paper or films. —PEN.

5181. **Lamplight Effects.**—Magnesium. Have you not tried flash-light? —PEN.

EDITORIAL.

SPECIAL NOTICE.—We are very pleased to find that replies in this column are so much appreciated, but we should be very grateful if those requiring advice would send their letters to us BEFORE TUESDAY MORNING'S post if possible. The time occupied in replying in this column is very considerable, and owing to the often late receipt of letters, many matters have to be left over each week. This we much regret. —ED: AM: PHOT:

E. W. MALE.—(1) You can either use a mixture of
Albumen 60 drops.
Water 1 oz.
Ammonia 1 drop.

or,
Gelatine 6 gr.
Water 1 oz.
Chromic acid solution (1:50) .. 12 drops.

(2) The use of the preservative, or, more correctly, "sensitizer," is to absorb the haloid set free; without such preservative the plates are very insensitive. (3) The following is very satisfactory:

1.
Ammonium carbonate 10 gr.
bromide 2 "
Water 1 oz.

2.
Pyrogallol 50 gr.
Methylated spirit 1 oz.

For use, mix 10 or 15 drops of No. 2 with 1 oz. of No. 1. (4) About 1½ in. of magnesium ribbon will suffice.

(5) Float the prints face downwards on water till the film is thoroughly soaked.

A. G. B.—(1) Would not the Thornton-Pickard blind shutter be suitable, or Lancaster's Chronolux? The complaint about the marking of the film is an old one. (2) The method of focussing the sun is very old, but unfortunately in England we do not always have the sun handy to be turned on just when we want it.

NOVICE.—The advantages claimed for carbonate of potash as an accelerator are that more concentrated stock solutions can be prepared, that it gives more density, and also gives rather more detail. It is necessary to use sulphate of soda as a preservative, or else the gelatine becomes very deeply stained. To make a 10 per cent. solution, dissolve 1 oz. (437 gr.) in 7 oz. of distilled water and make the solution measure 9 oz. It is unnecessary to use bromide of potash as a restrainer unless over-exposure exists, but it must be remembered that bromide acts more powerfully than with ammonia. About ¼ oz. of the above solution should be added to the developer for a half-plate, adding more if the image hangs fire.

J. E. HEATON.—For several years the Stores, Civil Service, Army and Navy, and Whiteley's have sold quarter-plates at 11½d. per box of a dozen, which is equivalent to the 5 per cent. allowed by most dealers for cash.

A. G. TURNER.—We are not publishing "Holiday Resorts," but shall be glad of your MS., as we shall, of course, resume the publication of them in the early spring.

E. M. ASPINALL.—We will examine and report upon your negatives, and advise upon other matters mentioned in your letter.

W. E. MARRIAN.—The only difficulty in using the ordinary lantern for enlarging is that it only has 4 in. condensers, and as the diagonal of a quarter-plate is 5 in. only part of the negative can be enlarged. The lantern must be enclosed in a light-tight box or else you may get fog from the stray light. Perken, Son, and Rayment have very good lanterns rising from 30s., or Price, Talbot quote at 27s.; either firm would quote for fitting 5 in. condensers and adapter for your own lens.

REV. T. PERKINS.—MS. and photographs to hand.

NEWTOWN.—We have sent your letter to Messrs. Watson and Sons; their address is 313, High Holborn, W.C.

F. H. J. RUEL (Montreal).—(1) No. (2) No, unless it took a prize.

A. SUBRAHMANYA SASTRI (Pudukotah).—Postal note was duly received.

JAS. JONES.—Thankful for your good opinion and kind help.

W. MILES.—We cannot do more than place them in classes, we fear.

S. B. Y.—Practically all back numbers are in stock. The publishers can send you them all; why not order direct?

T. REDHEAD.—Yes, the "1891 Prize Slides" will be with you on the 26th.

E. BAILY.—Shall be able to let you have prints on Dec. 16th and on March 18th.

SURO. A. G. E. NEWLAND (Burma).—The slides will be most interesting.

G. HARROP.—Our slides are sent carriage forward. Great Yarmouth will have to pay for them.

RUBY.—The peculiar positive-like appearance of your negatives may be due to over or under exposure, or to too much ammonia; impossible to say definitely without seeing.

BROMIDE.—You certainly can use pyro for bromide paper, but it gives hideous tones. Both papers are about the same rapidity.

D. SCRATTON.—(1) Good. (2) Would have been better if not printed in the sun. (3) Ditto, you were not careful in sneezing down. (4) Spoilt by the vignetting. (5) Good. (6) Good, gold bath too strong. (7) Good.

A. CARTER.—You should have placed the chair in the centre, and the young lady has far too firm a hold of the book with her left hand, to be asleep. Had the book slipped down it would have been better. Your technical work is good, although you have used a little too much pyro and bromide, and got the whites too hard. You certainly would stand a chance of being mentioned, if nothing more. Let us see some landscape work.

ARQENT.—Jerome Harrison's "History of Photography," price 8s. 6d. from our publishers. You could only get daguerreotypes and early processes by advertising. You might try Zanderek's process, given in "Wall's Dictionary," p. 259. Of course a great deal depends upon the method of keeping, but at least six months.

E. S. PAYTON.—See our leader this week. We are still working at it.

ASHTON.—There is no such camera made. Can you not rig one up yourself? Think it out, and send stamped addressed envelope, and we will write you.

A. P.—The print is good, and should be entered for one of our competitions. We do not know the camera. Who makes it? It should be a gem of the first water from the description, and certainly the camera would be worth seeing. Let us know the maker, and what you specially want in a hand-camera; then we will advise you.

G. B.—McKellen's cameras are certainly reliable, light, and strong, although Loman's are equally as good; the latter are possibly cheaper.

INSTANTOGRAPH.—Write to Hardestad, East Street, Brighton, for paper and price. Your bath should keep if you use clean bottles and distilled water. The group is very fair, and the blacksmith shop would have been improved by an inch less foreground.

REV. F. PARTRIDGE.—We should use half the exposure given in the tables.

B.—It is quite true; the old axiom still holds good, but you don't suppose for one minute that has the slightest influence on the manufacturer of the said article. Try dipping one of the stops into a rather weak solution of perchloride of iron. This will answer, we think; if not, send us one on and we'll try for you.

BETH.—It is quite possible that you would obtain better results with pyro and by using a more thickly-coated plate. (1) Spoilt by the halation from the windows. (2) Over-exposed. (3) Ditto, but very fair; give the view seen through the bridge a coat of yellow matt-varnish; the outline of the bridge is lost. (4) Good; it just wants some faint feathery clouds in to make it perfect. (5) Poor, too flat. (6) But for the movement, the figure is good, though a longer exposure would have improved it. (7) Clouds are wanted in this, anyhow we should cut an inch off the foreground. Do you develop long enough? Eikonogen requires development to be carried farther than pyro.

F. AND E. P.—(1) The print proves that far too strong a developer was used at first, which did not evenly cover the plate; the result is fearfully flat, all half-tone. (2) This is a little better, but why cut the book in half? (3) Good. (4) Good. (5) Flat. (6) Fair; possibly the difference in tone between 6 and 6B is due to the light they were printed in. (7) Fair. (8)

You should have used a grey background, not white, and the developer was too strong in hydroquinone. (10) Very poor. (11) Ditto. Did you ever see pink snow? and you have been using far too much hydroquinone. (9) You wanted a yellow screen here so as to render the purple cleanest truer. (12) You should have thrown the background out of focus. (13) Good. (14) Poor. (15) A good effect and would look better on matt-surface chloride paper. (16) Under-printed and over-toned. (17) Yellow matt-varnish is wanted under the eaves of the house to bring out the detail. You had better give up hydroquinone and take to pyro or eikonogen, which would give you better results. We sometimes see far worse work than yours in our competitions, and if you would choose some printing process which would give you matt-surface or more contrast, such as Kallitype or gelatino-chloride, your results would be more pleasing.

R. A. Y. C.—The formula for the acid fixing bath was given in our leader of Oct. 9, p. 255.

NOVICE.—(1) The advantage of the Iris diaphragm is that you cannot lose it. (2) We should recommend you to get a Wray's lens. (3) Add a few drops of pure hydrochloric acid to your solution of gold, then it will keep.

FILM.—Letter by post.

COLOUR SEROENT.—We give this up. There is now a tendency, started abroad, to express the covering power of lenses in terms of the focal length, which does away with the stupid method you ask about. Sorry we cannot see you one Monday evening.

E. H. ANDREW.—(1) 100 parts of water at 58 deg. F. will dissolve 58 parts of sulphate of sodium; therefore one in three is not too strong. (2) Fry's for contact printing, and Morgan and Kidd's for enlarging. (3) Dissolve 1 part of chrome alum in 100 parts of water, add liq. ammon. till a permanent precipitate is formed, then filter and use.

MILFORD.—(1) You cannot do better than obtain one of Wray's detective lenses of 5 in. focus. (2) Either one of the new 1891 Talmers, Swindens and Eap's, Underwood's Reflector, or Chadwick's.

NEMO.—See answers this week.

HIBERNICUS.—(1) The bath does not keep well. (2) Kallitype gives more permanent prints than silver paper. (3) A mask is used to cover the landscape, and then the clouds printed in. (4) Usually, clouds are printed on a separate lantern plate, and this then used as a cover glass.

CUMBERBATCH.—Hope ere this you have received the six negatives. We know nothing of the man, but are making enquiries; yours is the first complaint we have received. We cannot reply by post.

W. R. WEIR.—Our publishers will be able to supply you with copies of October 30th at the end of this week. Your medal will not be ready for some weeks.

R. McDONALD.—A new volume of the *Photographic Reporter* commenced in July.

WALTER KNOWLES.—You do not offer enough; the lens is as good as new.

A. T. NEWINGTON.—We will let you know what we think of the printing frame next week.

AGNOSTIC.—Mr. Wall will let you know more about the negative, which we have received quite safely.

L. C. ELWES.—The camera, etc., has been sent to you, and the May number of the *Photographic Reporter*.

J. Y. STRANGE.—We are much obliged for the photograph of the Silchester "finds" which are very interesting, and show that Miss Cooper has been an apt scholar, and has made good use of her time.

W. A. MEIGH.—Wish you success; the subject is mentioned in another column.

"AMATEUR PHOTOGRAPHER"

Stereoscopic Slide Competition.

(FIFTH YEAR.)

Henry Faulkner ..	Roehampton
Captain de Crespiigny ..	London
W. B. Cassingham ..	Tunbridge Wells
Richard Foley ..	Cork
J. E. Ellum ..	Yarm
T. Patterson ..	Preston
Sydney C. Rudman ..	Ferry Hill
W. Tomkinson ..	Wavertree
Thos. Ferguson ..	Kilmarnock
J. E. Austin ..	Maldstone
A. Turner ..	Nunhead
Walter Thompson ..	Oldham
William Farrington ..	Lee
Alphonse de Levy ..	Manchester
George Brown ..	London
J. Davenport ..	Manchester
Fred Mackenzie ..	Glasgow
Alexander Robb ..	Glasgow
Philip S. Foster ..	Halifax
A. E. Donkin ..	Rugby
W. Bevan ..	Crewe
Chas. Lord ..	Audenshaw
W. W. Naughton ..	Shrewsbury
J. H. Atherton ..	Wigan
C. V. Shadbolt ..	Bromley
Thomas Breakwell ..	Kidderminster
T. W. W. Melhuish ..	Vienna

Sale and Exchange.

RULES.

CHARGE.—Twelve words or less for Fourpence.

Every additional three words, one penny. The name and address of the sender must be paid for. (A single figure, or group of figures undivided by letter, space, stop, or words, counts as one word; compound words count as two words.)

COMMISSION.—A charge of 2½ per cent. will be deducted from all deposits whether a sale is effected or not. Minimum charge 1s.

PAYMENT.—All payments are to be by cheques or Postal Orders, made payable to **Hazell, Watson, and Viney, Ltd., 1, Creed Lane, London, E.C.**

CARRIAGE must be paid on all apparatus sent for report, and they will be returned carriage forward.

ADVERTISEMENTS can be inserted under a number, the name and address being registered, and letters forwarded for a fee of 3d. to cover postage.

ADDRESS.—All advertisements (which can be received up to Wednesday morning, 9 a.m.) and other communications having reference to the "Sale and Exchange" column, must be addressed "Sale and Exchange, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C."

PAYMENTS should be made in Postal Orders or Postage Stamps.

Backgrounds.—Backgrounds, two for sale, prettiest designs ever seen, not soiled; price only 50s. the pair.—No. 7, St. Benedict's Road, Norwich.

Backgrounds, in flatted oils, on linen and roller, 8 ft. by 6 ft. 6 in.; interiors, 15s.; exteriors, 12s. 6d.; painted by advertiser during dull business; 21 artistic designs sent to select from.—Hare, Photographer, Sutton, Surrey.

Cameras, etc.—Whole-plate XL camera, three dark-slides; cost 103s.; sacrifice for 65s.—Rev. Christie, Newtownstewart, Ireland.

Lancaster's half-plate Instantograph camera, complete with chemicals, lamp, scales, cloths, etc.; £3 the lot.—Mr. Allum, 5, Redfern Cottage, New Road, Weybridge.

Underwood's half-plate Exhibition camera, four dark-slides, and tripod, as new; cost over £6; price £4; or exchange for Underwood's Stereograph set.—Turnell, Chemist, Stroud, Glos.

Cameras, half-plate and whole-plate. The half-plate camera has double extension, all latest movements, nearly new, four double backs (one never yet been used), numbered 1 to 8, complete in stiff waterproof case, with Adams' 4-fold oak stand, most perfect outfit, £5 10s. Whole-plate Middleniss patent camera, long or short focus, double swing-back, reversing frame, all latest movements, absolutely new, never been used, three double backs, book form, great bargain, in waterproof case; £8.—No. 224, AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.

Cameras, Lenses, etc.—Whole-plate Lancaster's Instanto, square bellows, splendid R. Rectigrain lens, with Iris, three mahogany double backs, and new tripod, condition good; £5; or exchange half Instanto, complete, and 30s.—L., Ferry House, Pulborough.

Hand-Cameras, etc.—Reynolds' magazine hand-camera, hold 12 quarter-plates, fixed focus, rapid euryscopic 5 by 4 lens, cost £10 10s.; as new; price £5; bargain.—B., The Warren, Birkdale, Southport.

Shew's half-plate Eclipse hand-camera, three double backs, finder, solid leather case, bamboo tripod, Eastman's latest roll-holder, fitted complete, cost £13 7s.; also Luzo for 100 exposures, cost £4 4s.; will take £12 altogether.—No. 223, AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.

For sale, Swinden and Earp's hand-camera, holding twenty 5 by 4 plates, very little used, cost 5 guineas; cost £8.—Carter, Rearsby, Leicester.

Kodak, No. 3 regular, perfect order, 116 unexposed films, tripod, leather case; price 10s.; cost £9 when new.—Kodak, 43, Eaton Square, London.

Automatic hand-camera (Houghton's), in perfect order, with waterproof canvas bag, carries one dozen quarter plates, R.R. lens, fitted with Thionton-

Pickard special shutter, working up to 1-200th; cost £7 18s. 6d., sell £6 10s. or offers.—Hartness, care of Defaye, Chemist, Jersey.

Kodak, No. 1, also Dallmeyer's 1B portrait lens, 55s. each; both splendid condition.—Hummel, 24, Lorraine Crescent, Newcastle.

Lantern.—Watson's 6 in. condenser enlarging lantern, with objective, Argand burner, in perfect working condition; £5; can be seen by appointment.—No. 213, AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.

Binial lantern (Optimus), mahogany body, brass fronts, three draw tubes, and three pairs of lenses, various focus, £10; Hume's Cantilever enlarging lantern, 5½ in. condenser, £4; both new last season.—Pitcher, Photographer, Gloucester.

Lantern Slides.—Lantern slides, effects, photographs, coloured, etc.; exchange for others, or sell cheap.—Box 1, Mallow.

Lantern slides for sale, views of Cambridge, first-class work, well finished off, price 1s. each; selection of twelve, 10s., cash with order, post free; apply by letter.—Field, Fern Cottage, Branswick Terrace, Cambridge.

Lenses, etc.—Splendid R.R. 7 by 5, Iris, as new, 50s.; Wray's 5 by 4 R.R., Iris, as new, 48s. 6d.; Optimus portable symmetrical, 5 by 4, 27s. 6d.; half-plate landscape (by Suter), in leather case, new, 30s.—Rev. Christie, Newtownstewart, Ireland.

Dallmeyer's No. 2C lens, with Dallmeyer's 5 by 4 sliding box camera and shutter, perfect condition; £7.—G. Church, Triangle, Halifax.

7 by 5 Optimus rapid Euryscopic lens, f/6 largest aperture, Waterhouse stops, list 94s. 6d.; also Thornton-Pickard time and instantaneous shutter to fit lens, list 22s. 6d.; both as new; £3 10s.—A. L. Spiller, Hillside, Hampstead Hill Gardens, London, N.W.

Negatives.—A quantity of splendid half-plate negatives, taken by a high-class professional photographer, showing retouching, etc.; dozen, 2s.; 6 for 1s. 3d.; sample lot, 6d.; all post free.—A. Dunhill, 10, Swiss Terrace, Belsize Road, London.

Sets.—Dallmeyer's rapid landscape L.F. lens, Iris, cost £4 10s.; also Perkin and Raymont's long-extension camera, with folding tripod, and three mahogany book slides, cost £7 5s.; also three metal slides, and adapter to fit above, cost 15s.; solid leather case, 25s.; all in perfect condition; offers requested for whole or part.—Holworthy, 85, Gresham Street, London, E.C.

Whole-plate double-rack camera, with horizontal and vertical swing reversing back, rising and falling swing front, three double backs, Dallmeyer's 10 by 8 R.R. lens, Sands and Hunter's shutter, tripod, and solid leather bag, in good condition; cost £26 10s.; price £15.—No. 222, AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.

Quarter-plate camera, all movements, three dark-slides, with springs and covers, solid leather case, fine R.R. lens; sacrifice for 60s.—Rev. Christie, Newtownstewart, Ireland.

Quarter-plate stereoscopic camera (by Horne and Thornthwaite, London), with stand, two lenses, a single and double dark-slide, three focussing frames, also focussing cloth, photo box, with negatives, lamp, printing frames, plates, cards, dishes, chemicals, paper bromide; the lot for 45s.; a bargain.—Apply, No. 221, AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.

Must clear. Lancaster's Omnigraph, 15s.; cabinet tripod, in case, 12s. 6d.; print washer, cost 35s., price 15s.; negative washer, any size, 5s.; Lancaster's M.F.P. camera, half-plate, 12s. 6d.; cabinet burnisher and lamp, 4s. 6d.—M. Newhouse, 90, Victoria Terrace, Lancaster.

Lancaster's 1891 half-plate Instantograph camera and dark-slide, tripod, and R.R. lens, as new; bargain, 60s. 6d.—53, Slad Road, Stroud.

Sundries.—Chemical laboratory, Statham's tenguine, new, unused, perfect; £6; carriage paid.—Box 1, Mallow.

For sale, apparatus for platinotype hot bath process, namel bath, 7 by 5, chemical thermometer, rubber-pads, calcium tube for paper; 15s.—Withington, Woolley Park, Wakefield.

Slides, three half Instanto, three Specials, new, 6s. 6d. each; camera canvas bag, 3s. 9d.; 7 by 5 rectangular lens, 25s., grand; try it; approval.—Adams, Harold Woods, Essex.

195 numbers AMATEUR PHOTOGRAPHER, unbound, up to date; what offers?—G. Church, Triangle, Halifax.

AMATEUR PHOTOGRAPHER, from March 9th, 1888, complete, up to date, 191 numbers; what exchange in quarter apparatus? good lens required, suitable for rackwork hand-camera.—Young, 33, Coningsby Road, Ealing, Middlesex.

Marion's vignetting chair and head-rest combined, good as new; 30s.; cost 50s.—Logan, St. Oswald's House, Tenby.

Pair opera glasses, silver-plated, equal to new, cost four guineas (by West, Strand), in exchange for good half-plate outfit.—Birkbeck, Bailgate, Lincoln.

Dissolving view outfit (by Hughes), £8; 9 ft. sheet and elevator, 15s.; 12 comic slipping, 10 "White-washer," 10 "Bilby's Rose," 7 "Lifeboat," 25s. lot.—S3, Milnrow Road, Shaw, Oldham.

Wheatstone's English concertina, 48 keys, offered in exchange for a Ross or Dallmeyer rapid symmetrical lens.—No. 225, AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.

WANTED.

Cameras, etc.—To purchase a half-plate camera and slide; no rubbish.—Particulars to Geo. Randall, High Street, New Brompton.

Whole-plate Lancaster's Instantograph, one or more double dark-slides, must be in first-class order, and cheap.—Address, C. V., 158, Broad Lane, Sheffield.

Stereoscopic camera, good condition, cheap, with or without lenses.—Price and particulars to Box 72, Post Office, Manchester.

Half-plate Lancaster's extra-special brass-bound Instantograph, or other good make, three double slides, turntable, camera case, no lens.—Particulars and lowest cash price to S. H. M., 7, Eubridge Street, Salford, Manchester.

Hand-Cameras, etc.—Kodak, No. 3, or other hand-camera, with R.R. lens, by good maker; exchange hand-painted lantern slides, by Newton.—Rectory, Bradford Peverell, Dorchester.

Hand-camera, good maker.—A. S. Poole, Cobham, Surrey.

Kodak, No. 4 Junior, must be in good condition, moderate price; approval; deposit if required.—Send lowest price by letter to H. Radford, 7, Colville Villas, Nottingham.

Lanterns.—Enlarging lantern and camera, must be thoroughly good, 8½ condenser, no front lens; on approval.—D. Towers, Park View, 95, Woodstock Road, Finsbury Park, N.

Lenses, etc.—Taylor and Hobson's 5½ in. hand-camera lens, also an alpenstock tripod.—Longden, Wharmcliffe Chambers, Sheffield.

Sundries.—6 to 8 in. condenser, also timelight burner and oxygen tube, complete.—W. Holzapfel, Quayside, Newcastle.

CHRISTMAS CARDS,

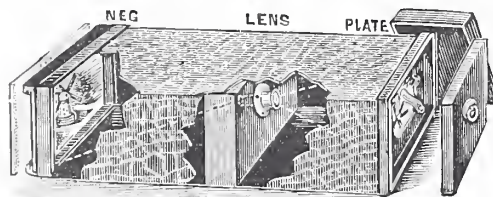
Gold Blocked Fancy Edges, for Mounting Photographs on. Sample Packets, 1s. and 2s. Cash returned if not approved of.

HOOPER & CO., 5, Hand Court, Holborn, London.

TO AMATEURS AND OTHERS.

Reducing Stock at specially low prices—50 per cent. in some cases. New Cameras all sizes; Key and Shew Hand Cameras; Tripods; Lenses; R.R. and Wide Angle; Canvas and Leather Cases; 30,000 Mounts, Presses, Developing Dishes, etc. **SPECIAL LINE:** Several New High-class Half-plate Cameras, with three double backs, cost £8 17s. 6d.; sale price £3 15s. Quarter-plate ditto, with three double backs, cost £5 17s. 6d.; list price, £2 10s.

Printed List on application to **EDWARD PECK, Photographic Chemist, EAST DEREHAM, Norfolk.**



GRIFFITHS' PATENT FIXED ENLARGEMENT CAMERA.

This Camera is made on the same principle as the Lantern Camera, and possesses the same advantages and charm in working. Prices: Quarter to Half-plate, 16/-; Whole-plate, 19/-; 10 by 8, 22/6; Half to Whole-plate, 19/-; 10 by 8, 22/6; 12 by 10, 26/-. Send for Catalogue of Cameras and Photographic Sundries.

Patentees and Manufacturers—

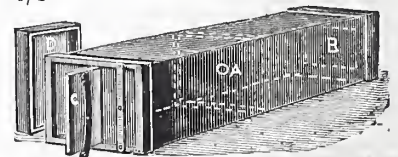
WALTER GRIFFITHS AND CO., Ltd., Highgate Square, Birmingham.

GRIFFITHS' PATENT LANTERN SLIDE MAKING CAMERA.

This "most useful Instrument" leaves nothing to do beyond inserting Negative at one end and "Lantern Plate" at the other. Expose and Develop, and you will find it always in correct FOCUS, SIZE, and POSITION. This Camera has now been before the public for two seasons, and its popularity is fully established.

TESTIMONIAL.—"The Lantern Slide which secured the First Prize at the Birmingham Photo Exhibition, 1890, was taken in this Camera by BENJ. KARLEESE, Esq."

Prices complete: Half-Plate, 12/6; Whole-plate, 15/-; 12 by 10, Adjustable, 21/-; Fitted Dark Slide, 4/6 extra.



The AMATEUR PHOTOGRAPHER

Telephone No 1645 Telegraphic Address: VINEY, LONDON Office: 1, Creed Lane, Ludgate Hill, London, E.C.

No. 371. VOL. XIV.]

FRIDAY, NOVEMBER 13, 1891.

[PRICE TWOPENCE.]

OUR VIEWS.

"To hold as 'twere the mirror up to nature."—Shakespeare.

OUR VIEWS.—The AMATEUR PHOTOGRAPHER'S Ladies' Second Annual Photographic Competition; List of Awards—Suggested Course of Lessons on Photography for Ladies—A Possible Photographic Club for Ladies—Photography at Bloemfontein—How Long will a Plate Keep?—Artistic Portrait Photography—A New Journal to be published in Vienna—The Chicago Exhibition—Blackheath Camera Club—The Maddox Testimonial Fund—The AMATEUR PHOTOGRAPHER 1891 Prize Slides, personally conducted at Manchester by Mr. Charles W. Hastings—The Tunbridge Wells Photographic Exhibition—"Odd Bits of Normandy," by the Rev. Precentor Mann.

LEADER.—Bromide Paper.

ILLUSTRATION.—"Wind's Point, Malvern," by P. A. Creeke.

LETTERS TO THE EDITOR.—Vignetting (R. E. Kemp)—A Plea for Composition in Photography (Lyddell Sawyer)—Correction (E. F. Beecher)—Our Monthly Competitions (J. Oswald Bury)—The Fate of a Hand-Camera (Am. Phot.)—"Photography at Home" Competition, 1891 (S. Francis Clarke)—Development (W. H. Ellis)—Hand-Camera for South India (Cape Comorin)—Camera Club, Commercial Road (M. A. Wilkinson)—The Work of Photographic Societies (Capitalist)—South Hornsey Photographic Society (J. McIntosh)—Dark-Room, Madeira (Henry M. Bell).

ARTICLES.—Photographic Procedure, illustrated (Wall)—A Paper for Beginners—The Study and Practice of Art in Field Photography (Hinton).

NOTES.—From the Edinburgh Centre—AMATEUR PHOTOGRAPHER "Monday Evening;" Carbon Printing Practically Demonstrated.

SOCIETIES' MEETINGS.—Bath—Belfast (Y.M.C.A.)—Braford—Brixton and Clapham—Camera Club—Cardiff—Carlisle—Cheltenham—Coventry and Midland—Croydon Micro—Croydon—Darlington—East London—Herefordshire—Holborn—Lewes—Lewisham—Lowestoft and District—Midland Camera Club—North Middlesex—North London—Oxford—Paisley—Photographic Club—Richmond—Rochdale and District—Rotherham—Sheffield—Sydenham—Tooting—West Kent—York—Wigan.

EDITORIAL DEPARTMENT.—All Literary Contributions, Queries and Answers, Photographs for Competition or Criticism, Books or apparatus for Notice or Review are to be addressed to the EDITOR, AMATEUR PHOTOGRAPHER, 1, CREED LANE, LUDGATE HILL, LONDON, E.C. (All Communications should reach the Editor on Tuesday.)

PUBLISHING DEPARTMENT.—All letters containing Subscriptions, Orders, Remittances, SALE AND EXCHANGE Advertisements, or other business matters for the AMATEUR PHOTOGRAPHER are to be addressed to the Publishers, HAZELL, WATSON, AND VINEY, LD., 1, CREED LANE, LUDGATE HILL, LONDON, E.C. (SALE AND EXCHANGE Advertisements, at the charge of Three Words for One Penny, can be received as late as WEDNESDAY MORNING.)

"Amateur Photographer" "Holidays with the Camera" Competition (Second Year)—Prizes: Gold, Silver, and Bronze Medals, and Certificates; with special prizes of "Niepce" or progressive medals for past prize-winners. In all, twelve prizes will be placed at the disposal of the judges.

SUBJECTS.—All photographs are eligible that have been taken during the "Holidays," but must be landscape or sea pieces, with or without figures, views of town, photographs of cathedrals, churches, public buildings, etc., but NOT *portraiture*, *figure study* of pictures which could be classed as "Photographs at Home."

DATE.—All photographs must be received on or before the 31st of December, 1891.

RULES, CONDITIONS, AND ENTRY FORMS will be forwarded on receipt of stamped addressed envelope. The application should be addressed, "HOLIDAYS WITH THE CAMERA," Editor, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C.

"Amateur Photographer" Monthly Competition No. 31—"SEA-SCAPE AND RIVER SCENERY." Latest day, DECEMBER 1ST.—Prizes: Silver and Bronze Medals, with Ribbon and Clasps. One print only to be sent in. Entry forms, etc., on receipt of stamped envelope. Address: Editor, AMATEUR PHOTOGRAPHER, 1, Creed Lane, E.C.

"Amateur Photographer" Monthly Lantern Slide Competition (Seventh)—"ARCHITECTURE (INTERIOR AND EXTERIOR)." Latest day, NOVEMBER 19TH.—Two Slides to be sent in. Entry Forms, etc., on receipt of stamped envelope. Address: Editor, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C.

Members of the Editing Staff are "At Home" on Monday afternoons from Two till Five o'clock, and they will gladly give advice upon all photographic matters.

OUR very sincere apologies are due to the competitors in the AMATEUR PHOTOGRAPHER Ladies' Second Annual Photographic for the delay in publishing the awards; it has been chiefly due to the difficulty which we have experienced in securing the services of lady photographers as judges, but last Friday the photographs were adjudicated upon by Miss Agatha M. M. Swiney and Miss Berthe Brochery, both competent photographers practising in London; these ladies were kind enough to give us their services, and awarded the prizes placed at their disposal, in the following order:—

First Prize (Gold Medal).

MRS. FANNY HIGHNETT. Chester.

Second Prize (Silver Medal).

MRS. S. FRANCIS CLARKE Louth.

Third Prize (Bronze Medal).

MISS E. ANNESLEY Pau, France.

Fourth Prize (Certificate).

MISS F. A. DE R. HARDMAN Reigate.

The remaining competitors were classed in two divisions, viz.:—

First Division.—Miss Margaret Watson, Miss C. Vaughan Davies, Miss Ada S. Boore, Mrs. Mary T. Ward, Mrs. Rosamond Holford, Miss Nelly M. Grace, Mrs. Margaret Coles, Miss Dora E. and Agnes Bulwer, Mrs. E. Bird, Miss Annie Johnson, Miss Frances M. Pownall, Mrs. Edith Cleasby, Miss Alice H. Gray.

Second Division.—Mrs. Agnes D. Colvill, Miss Agnes C. Burns, Miss M. P. Ward, Miss F. O. Ward, Mrs. Wilson, Miss Hannah Beck, Mrs. M. M. Pollard, Miss Ethel M. Whitmore, Miss Susan Ballard, Miss M. J. Dunne, Miss Douglas, Lady Eleanor Stopford.

We are pleased to advise our prize-winners that a selection of their photographs will, through the kind courtesy of the editor, be reproduced in an early issue of the *Ladies' Pictorial*, and many of the others will be referred to. We shall reserve our own review of the competitive work for a week or two. It will be remembered that Mrs. Highnett took high honours at Liverpool, and that Mrs. Clarke, who quite recently obtained a Silver Medal for lantern slides, has been successful in several competitions, and is well known as one of our foremost workers.

WE are pleased to note that the Blackheath Camera Club has now got into working order. The opening meeting will be held on the 16th inst., at 8 p.m., in the hall of the Missionaries' School, Blackheath Village. Few suburban photographic societies have started under better auspices. The President is Mr. W. H. M. Christie, M.A., F.R.S., F.R.A.S. (Astronomer-Royal), many of the members of Council are well-known men, and we understand that already some eighty members have been enrolled. The Club is open to all interested in photography, and the subscription has been fixed at half a guinea per annum. Applications for membership must be sent to the Hon. Secretary, Mr. T. B. Earle, The Cottage, Handen Road, Lee, S.E.

A CORRESPONDENCE has for some little time been conducted in the columns of our contemporary, the *British Journal of Photography*, with reference to the presentation to Dr. Maddox of a suitable testimonial, in order to place on

had been loaned to the Manchester Amateur Photographic Society, and the Council very kindly asked Mr. Hastings to "personally conduct" the slides. His reception was most gratifying, and the appreciation of the large audience is another testimony to the exceedingly high qualities of the "Prize Slides." Those by the President, Mr. Jas. Davenport, and the Vice-President of the Society, Mr. J. W. Wade, very naturally received an ovation. The calls upon our time are very numerous, but it is extremely pleasurable to us to visit centres of photographic work, and to find how popular our publications are, and with what enthusiasm our remarks upon photography in general, and our subscribers' work in particular are received. The Manchester Amateur Society is a strong body. With the exception of the Camera Club, they number more members than any other. The muster-roll exceeds 450, and "it is still growing." Of this large membership, we believe a very considerable number are *active* members, and we know that they support our

"AMATEUR PHOTOGRAPHER" COMPETITION PICTURES.



THE WIND'S POINT, MALVERN.

BY P. A. CREEKE.

record the high appreciation by those interested in photography of the great services that he has rendered. A well-known firm of dry-plate manufacturers, have, we believe, promised a subscription of one hundred guineas. It is hardly to be expected that many such subscriptions will be received, but all workers in photography owe so much to Dr. Maddox, who was, it will be remembered, practically the inventor of the gelatine dry plate, that we sincerely hope the Committee which is being formed will receive from all classes subscriptions for the "Maddox Testimonial Fund." The Committee will be a strong one, thoroughly representative of photography, and we understand that Mr. Andrew Pringle has kindly undertaken the duties (*pro tem.*) of Hon. Secretary. Full particulars will shortly be announced in the columns of the photographic journals.

ON Tuesday evening Mr. Charles W. Hastings showed the AMATEUR PHOTOGRAPHER 1891 Prize Slides to an audience of considerably more than 800 ladies and gentlemen, in the large hall of the Athenæum, Manchester. The slides

competitions very considerably. The exhibition of the 1891 "Prize Slides" at Manchester was the means of gathering together the largest audience on record, and although the visit was made at considerable personal inconvenience, Mr. Hastings having to return to London the same night, it gave him the greatest pleasure to find how greatly his presence was appreciated.

WE would again remind our readers that the 14th inst. is the last day for sending in entries for the Tunbridge Wells Photographic Exhibition.

THE *Building News* reproduced in their issue of the 30th of October, four photographs by the Rev. Precentor Mann, M.A., "Old Bits in Normandy." These are selected from Mr. Mann's contribution to our 1890 "Prize Tour Competition," and for which he was awarded the AMATEUR PHOTOGRAPHER gold medal. The photographs were exhibited, and medalled at the Crystal Palace Photographic Exhibition 1890.

WE have often been asked to arrange a course of lessons on photography for ladies; this we are hopeful may now be possible. We shall be glad to receive the names of any ladies wishing to go through a course, of say twelve lessons, in practical photography, or who may desire private tuition. Should the suggestion receive support, it is quite possible that in addition a ladies' photographic club may be started in London. We know well the want of a centre for ladies to meet and discuss photographic matters, and at the same time where they might be able to change plates, develop negatives, etc. There is no reason why such a club should not be supported. We feel certain that many ladies would join as country members, in order that when visiting London in the season, or at other times, they might have a *piéd à terre* for their photographic work. The club would, of course, be supplied with the photographic journals, have its library, meeting-room, tea-room, dark-rooms, etc. We invite correspondence.

—♦♦♦—

A CORRESPONDENT writes from Bloemfontein Orange Free State: "Photography interests me very much, and I am endeavouring to perfect myself in the art, but here in this far off place we lack the advantages you have in the home country. I subscribe to the *AMATEUR PHOTOGRAPHER* and the *Photographic Reporter*, and obtain many useful hints and suggestions from both. I hope soon to be able to send for some books, such as 'Holidays with the Camera,' and the published volumes of the 'Amateur Photographer's Library.' Kindly send me form for the 'Holidays with the Camera' competitions."

—♦♦♦—

MANY a time the question has been asked, how long will a plate keep? and various have been the answers recorded. According to Eder ("Ausführliches Handbuch," vol. iii., pp. 276, 277) two years is the longest time recorded. We are conscious of noting the fact that plates have been kept five years, this being recorded in one of the foreign journals, but at the present moment we are unable to locate the statement. Mr. Wall informs us that he developed plates in July, 1890, which from the number on the box were stated to have been made by the makers on December 31st, 1884, and that they only suffered from marginal fog, which he ascribed to the use of a black waterproof paper for enclosing the same, and that otherwise the plates were of fine quality and fairly rapid. We have received from a correspondent a box of Kennett's patent ordinary Pellicle dry plates, which, judging from the instructions enclosed, were made subsequent to 1876, and from comparison of the advertisement included in the box and the advertisements of the annuals, we fix the date of the manufacture of these plates at 1878. We have exposed and developed three of these plates, and find them still equal to many of the present commercial plates, although these, too, suffer from marginal fog, which we are inclined to ascribe also to the black waterproof packing paper. If we are correct in our surmise, this gives a life to the plates of thirteen years. We propose to expose two of the plates on the same subject, and developing one to enclose the exposed plate and the remaining unexposed seven plates with the negative in a tin box, and have the same soldered down and deposited in some place of security, where the package may lie for several years, and thus try and see how long an exposed and unexposed plate will last. Doubtless some carping critic will state that we are going to perform an experiment which will be utterly valueless. We might recall Darwin and his patient researches, but we do not wish to place ourselves on a level with him, but we maintain that it will be interesting to determine how long plates will keep.

WE have received a note from Herr Charles Scolik, the editor of *Photographische Rundschau*, the journal of the Club of Amateur Photographers of Vienna, which informs us of the coming publication of a new photographic art paper, which is to be devoted to "artistic portrait photography," and which will contain a number of artistic reproductions, either in collotype or heliogravure, of portraits, busts, half-length and full-length figures, studies of heads, genre groups, costume sketches, and children. Each illustration will be artistically and technically perfect, and recognising the fact that many of the leading amateurs will now take equal rank with the professionals in this class of work, Herr Scolik requests us to support the new undertaking by calling the attention of our readers. Pictures sent in for this work will not be paid for, but a free copy of the paper will be sent to everyone whose picture is accepted, and a certain number of separate impressions of the picture. Further communications should be addressed to Herr Scolik, Piaristengasse 48, Vienna, VIII.

—♦♦♦—

It may possibly be of interest to some of our readers if we give the leading points in connection with the Chicago Exhibition of 1893, culled from the report of the special commissioners sent by the Society of Arts' Royal Commission. Practically, the Exhibition buildings, or the principal ones, at least, will be a replica of the Paris Exhibition. The area of Jackson Park, to be occupied by the Exhibition buildings and grounds, will be about 800 acres, a considerably larger area than Hyde Park. The most important and decidedly novel feature in connection with this World's Fair is that there will be no medals, no certificates, no diplomas of honour, but to every exhibitor will be given "some souvenir of participation, irrespective of the merit of his exhibit." The juries will be called upon to carefully examine all exhibits within their respective sections, and to set forth in a series of analytical reports the special points of excellence and novelty in the exhibits, and the exhibitors will be allowed to publish extracts therefrom.

The following extract from the *Journal of the Society of Arts* will give any intending exhibitor particulars as to applying for space:—

"The Royal Commission are now prepared to receive applications from manufacturers and others desirous of taking part in the Exhibition. Such applications must be made upon forms to be obtained from the Secretary of the Commission, at their offices, Society of Arts, John Street, Adelphi, London, W.C. They must be sent in, properly filled up, not later than February 29th, 1892, and addressed to the Secretary, as above. As the funds granted by H.M. Government will not suffice to defray all the expenses of the Section, it is necessary that they should be supplemented by payments from the exhibitors. A charge will therefore be made to each exhibitor, based on the amount of space occupied, and calculated on the following scale:—

	Per sq. ft.
	s. d.
For spaces not exceeding 100 sq. ft.	5 0
For spaces exceeding 100 sq. ft. and not exceeding 200 sq. ft. ...	4 6
For spaces exceeding 200 sq. ft. and not exceeding 300 sq. ft. ...	4 0
For spaces exceeding 300 sq. ft. and not exceeding 500 sq. ft. ...	3 6
For spaces exceeding 500 sq. ft. and not exceeding 750 sq. ft. ...	3 0
For spaces exceeding 750 sq. ft. and upwards	2 6

The minimum charge will be £5.

"It is not expected that the total receipts from all sources will more than suffice to defray the cost of an adequate representation of British industry; but should there be a sufficient surplus after the payment of all the costs of the Section, the Royal Commission will refund the balance *pro rata* with the amounts contributed by the several exhibitors. The amount produced by the payments of exhibitors will therefore be treated as a guarantee fund, to be expended if necessary, but if not, to be refunded to the contributors.

"A prospectus giving further information can be obtained at the Society's offices."

BROMIDE PAPER.

Now that dark days and fogs are rapidly coming on, bromide printing will probably receive more attention from our readers than any of the printing-out processes, and a few hints may not be out of place on this subject.

We have already lightly touched upon some possible difficulties which beginners are likely to meet with, and we shall now consider the question of the colour of the image. On examining a number of bromide prints by half a dozen different workers, one is struck by the various images obtained; some are greenish, some intensely black, and some grey. It is possible by choosing a particular developer, and varying exposure and the proportions of the developer constituents, to obtain almost any shade of image we like. Thus a short exposure and a ferrous-oxalate developer strong in iron will give us intensely black tones, the addition of bromide tends to give greenish tones. Hydroquinone with a full exposure, especially with caustic alkali and bromide in the developer, tends to brownish shades. Eikonogen gives fine, soft blacks with normal exposure, but long exposures and a plentiful addition of bromide will give brown tones.

Possibly a few hints on the choice of bromide paper may also not be unwarranted here. We may possibly classify negatives into three kinds—the normal, the flat, thin or weak, and the hard or highly contrasted negative with bare glass shadows and dense high lights. Now, to take one brand of bromide paper and obtain perfect results from each class of negatives is not impossible but it is by no means an easy task. Let us assume then that we have only one kind of bromide paper and the three negatives. The normal negative, with good gradation from the greatest opacity to the least, presents no particular difficulty. In this case an ordinary exposure at a normal distance, say two or three feet from the source of light, will give us satisfactory results.

In the second case, that of the thin negative, which we know from experience gives us hardly a satisfactory print by any silver process, we must set to work differently. We must first of all choose a slow bromide paper and expose it at an increased distance from the source of light; thus, if our usual distance be two feet, and we reckon that the exposure at this distance should be about five seconds for the thin negative, it is better to place the printing frame at four feet, and instead of giving just four times the exposure at the lesser distance, we cut it down rather, and give only three times, or fifteen seconds. Then by suitable modification of the developer we can obtain decent results.

In the third case, that of negatives with harsh contrasts, we have no easy task, but if we apply here the principles we learn in silver printing, we may see a way out of our difficulty. We know that printing in a brilliant light like sunlight tends to flatten silver prints or reduce contrast, and this is our main idea. For the same end, therefore, we choose this time a rapid bromide paper. Now as we cannot use sunlight, we can use the nearest approach, magnesium ribbon, or else daylight, though the former is preferable. Or we may even place the printing frame near a gas flame,

and give a rather long exposure. This will tend to over-expose the thin parts of the negative, and gives us softer results and yet give us detail in the dense parts. In cases where the dense parts of the negative are well defined, as, for instance, in an interior, the most satisfactory method of exposure is to place a candle in a box, in the front of which is a small round hole, to which we fasten a short tube of metal, by means of which we can expose any particular part of a negative without exposing the other parts. In our own practice we have a convenient little hole in the dark-room lamp which enables us to expose in this way.

Returning now to our original subject—the modification of colour image by means of development—a statement has been made, that if half of a piece of bromide paper be exposed at a distance of two feet from a source of light, and this half be then covered up and the other half exposed for a proportionately longer time at twice or three times that distance, and the piece of paper be then developed, a distinct difference in the character of the image of the two halves will be seen. The first has a greyish tone, the latter a black. In other words, the greater the distance between the source of light and the sensitive paper within reasonable limits, the blacker the image. The following experiment bearing upon this point is not without interest. A piece of bromide paper was exposed under the graduated screen of Warnerke's sensitometer at a distance of 12 in. from a No. 3 Bray's burner for 60 seconds; a second piece from the same packet was exposed for 4 minutes at a distance of 2 ft.; a third piece for 9 minutes at a distance of 3 ft.; and the three pieces were then developed together with a normal ferrous-oxalate developer, 1 part of iron to 6 parts of oxalate, and a few drops of 10 per cent. solution of bromide of potassium, with the following results:—

		Distance from Light.		Exposure.		No. of Screen Visible.
<i>a</i>	....	12 in.	..	60 sec.	..	20
<i>b</i>	....	24 „	..	4 min.	..	20
<i>c</i>	....	36 „	..	9 „	..	20

All three prints showed from 1 to 5 of equal blackness; *a* showed from 6 to 10 decidedly grey, the same numbers in *b* were slightly blacker, and there was a decided difference between *a* and *c* in these numbers to the advantage of *c*; from 11 to 15 *c* had again the slight advantage, but it was slight though; from 15 to 20 no difference could be detected in the three pieces. As far as possible, the greatest precautions were taken against errors. The gas was kept at the same height for each exposure, and prevented from flickering, etc., and the distances were exact in each case, and the time of exposure as correct as possible. From the results we certainly can conclude, then, that the statement above has some foundation.

The modifications of the developer are simple; increase of iron in the ferrous-oxalate developer, the addition of 1 part of sulphurous acid to every 7 parts of the mixed developer, certainly tend to give blacker images, whilst with the hydroquinone and eikonogen developers increase of these reducing agents has the same effect.

We shall next week proceed to consider the obtaining of warm tones on bromide paper.

EXHIBITIONS.

SOCIETY.	Place.	Open.	Close.	Last date for sending in.	Secretary.
Tunbridge Wells	Tunbridge Wells.	Nov. 25.	Nov. 28.	Nov. 20.	Joseph Chamberlain, 14, Calverley Park Gardens, Tunbridge Wells.
Art Gallery Committee ...	Leeds.	Dec. 7.	Jan. 9.	Nov. 27.	Geo. Birkett, Municipal Art Gallery, Leeds.

Letters to the Editor.

VIGNETTING.

SIR,—*Re* "Centurion's" ingenious vignetter, fully described in a recent issue. I admired the idea until the last line of his notes—the comparison with the "roasting-jack affair." It is very frail, not to say dangerous, as frames are at liberty to slip through the laths as they go merrily round; that is, if made large enough "to suit a number of printing frames to be placed thereon at one time." Besides this, the cones must be ever open to injury, and thus cause annoyance. This plan of vignetter may probably suit "Centurion" and other amateurs, but then there is the risk of his negatives being precipitated on to the ground. Let us now say a word for our good old servant the bottle jack. Here is my own experience:—The bottle jack, at a second-hand stores, 3s. The cheapness, you will say, causes me to advocate "jack." Not so, it is its usefulness; for when you don't want to vignette with it, your better half can roast with it. Next a pastry board. These pastry boards are good stout substantial articles, and one that costs a shilling will hold six half-plate frames. Now fix four "eyes," one in each corner of your board, and pass a length of strong cord through them; leave sufficient to allow the board to hang 18 in. or 2 ft. below the "jack," and fasten by tying underneath. This "jack" will hold a weight of something over 20 lb., so if it is required, you can suspend a much larger board. You have no fear of them falling off. Your pasteboard can be marked out to serve as a "mounting board," as in "Wall's Dictionary." It can be supplied with feet that will not retard its efficiency as a vignetter, but will serve you well as a support for your paper when enlarging, or your object when copying, and if you are pushed a bit for a pastry-board, you can let it serve the purpose for which it was made.

Both these things take up very little room when not in use, and both are serviceable for other purposes. Those amateurs who possess a "jack" have little to do to complete this efficient accessory to their entire satisfaction, both for service and expense.

Now the vignetting. Take a piece of cardboard the size of your frame, cut out the centre about size required, or a shade larger. If preferred, serrate the edges. But the real vignetter is the cotton wool that you place between the negative and the cardboard. Fix the cardboard with drawing pins to the frame, and adjust the cotton wool to the shape of vignette you desire, at the same time thinning it as it reaches the centre of the plate. This gives beautiful soft vignettes, and if, on examination during printing, you wish to alter it, you have only to readjust the wool. Landscapes with leaves or such like out of focus, running into the sky, or over-exposed skies, and many other little doctorings, can be done with cotton wool, held in its place by an elastic band or a little gum, and given to "jack" to finish. Cracked negatives can also be done with this.

While the cones stand still for want of wind, "jack" goes on for 4½ hours (timed) with one winding, and tells you he is still busy by his click.

During sunshine, six frames on "jack" will engage your attention pretty much. If it prints too rapidly, cover your frames with thin tissue paper, or hang him in the shade. Want of balmy breezes won't stop him.

I might add this—suspend "jack" so that his body doesn't move, and don't tie the cord so tightly that you can't undo it, for when using it as a mounting board, or a support for enlarging, you will require the board free.

Trusting this will help your young aspirants (the veterans will, of course, know it), and that they may become successful and pleasing vignettiers, I remain, yours, etc.,
R. E. KEMP.

St. John's, S.E., Nov. 3rd, 1891.

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A PLEA FOR COMPOSITION IN PHOTOGRAPHY.

SIR,—What should be the fate of a person who prowls behind the cover of a *nom de plume* to throw mud at one's writings by ingeniously selecting bits of the sentences and slinging them together until he twists them into statements entirely opposite to the spirit of the complete article?

I should let this perverting genius severely alone who so treats my paper, in your last week's correspondence, only that, through drawing my attention to one item, he has unintentionally done

me a favour which he will doubtless very much regret to learn. He misquotes me as stating, "I consider it a great slur on us generally that it is possible for such superficial workers (*i.e.*, landscape photographers) to obtain reputation as artists without knowledge," etc. But the above words in parentheses, the "*i.e.*, landscape photographers)" I did not write; they are my not-too-scrupulous friend's own interpolation without it being in any way acknowledged. This, however, it is easy to understand, is a little point of honour much too trifling to be of consequence to one who shows himself to be such an expert in ways that are crooked. As a matter of fact, I did not necessarily mean landscape photographers, but simply any unskilled worker, in writing this sentence; although the introduction of the superfluous word "such" might convey the wrong impression to others of your readers.

Hence I am glad to have had occasion to refer again to this article and to make clearer the one item which I think requires any explanation.

As I need scarcely state, I know many landscape photographers who are far from superficial in their labours, but are capable and earnest men, and among other matters, the tone of my paper, I trust, sufficiently suggests, to anyone reading it *honestly*, that my regret is because such men confine themselves so exclusively to the one simple form of photography.

Perhaps it may interest you to know that I have received several letters from various sources thanking me for upholding what they unanimously agree is a much-needed reform in photography.—Yours, etc.,
LYDDELL SAWYER.

Newcastle-on-Tyne, November 4th, 1891.

* * * *

CORRECTION.

SIR,—In your report of "Thursday Evenings at the Camera Club" I am reported as saying "that I had made many camera shots at buffalo, etc."

What I did say was that Mr. Inverarity—a well-known barrister on the Bombay side—had done so, and that I had been in positions where if I had had a camera with me I could have made a successful camera shot if I had been so inclined.—Yours truly,
E. F. BECHER

94, Piccadilly, W., Nov. 6th, 1891.

(Major, R.A.)

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OUR MONTHLY COMPETITIONS.

SIR,—Many thanks for your kind letter conveying the pleasant news that I have been awarded first prize, a Silver Medal, for my contribution to the "Inland Scenery Monthly Competition."

I am now the happy possessor of a certificate, Bronze Medal, and a Silver Medal, and I hope I may be pardoned for my rashness when I tell you that I intend to make a bold bid for a Gold Medal in the next "Holidays with the Camera Competition."

It is very gratifying to me to hear that it is intended to reproduce "On a Welsh Hillside" in the December number of the *Photographic Reporter*, and I shall be glad if you will ask the publishers to send me twenty copies and an account for same.

I feel that my thanks are largely due to you, for during my photographic life you have always acted so kindly in all matters.—Yours, etc.,
J. OSWELL BURY.

Wrexham, Nov. 5th, 1891.

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THE FATE OF A HAND-CAMERA.

SIR,—I do not play with toys myself, but I often get a lot of amusement out of hand-cameras—in the hands of others. The other day I was standing on the breakwater at Folkestone, watching one of the most picturesque sights in the world, the departure of the fishing fleet, when I heard a tapping. Looking round, I saw an unfortunate amateur hammering away at the top of a post with a hand-camera of the magazine breed, and chaunting in a sort of impassioned monotone the soul-saving and temper-calming word beginning with "a big, BIG D." Lovely pictures were running to waste in all directions, and a plate had stuck. Suddenly the aggravating toy was hurled into the sea with an addition to the words of the song that I will not trouble you with, for I hold that the AMATEUR PHOTOGRAPHER should not unnecessarily be made a vehicle for bad language. I rushed forward to save the man from suicide, but my attentions were not required. He walked quietly away, whistling, with his hands

in his pockets, and was apparently never saner or happier than when he made a present of his hand-camera to the fishes.—Yours, etc.,
AM. PHOT.

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"PHOTOGRAPHY AT HOME COMPETITION, 1891."

SIR,—My attention having just been called to a letter, published in your issue of October 30th, by Mr. James Dumont, to whom the judges awarded the Gold Medal in the above competitions, I should like to ask how the information therein contained fulfils the condition laid down in the fourth rule of the competition, viz., "No picture that has been awarded the AMATEUR PHOTOGRAPHER Medal, or obtained an award at any open competition or exhibition, will be eligible."

Since two of the fine pictures sent in are acknowledged to have received recognition at Vienna, which recognition carries with it a diploma, the only class of awards made, and a third picture has been awarded a medal at Cardiff, I must most respectfully submit that Mr. Dumont is not entitled to receive a medal, which was awarded to him on the faith of his having fulfilled the *entire* conditions imposed upon other competitors.

If the breach of this condition is not sufficient to disqualify, what about the last paragraph of the "competitors' declaration"? Did Mr. Dumont ever sign it?

In this matter I am entirely free from all personal interest, although I secured the first Silver Medal in the competition, the judges having withheld the second Gold, clearly proving that my work was not equal to a gold award. My only reason for writing is to protest most strongly against any competitor receiving an award when he has failed to comply with the conditions required of other competitors.—Yours very truly,

S. FRANCIS CLARKE, L.D.S.

NOTE.—This matter shall receive attention, and doubtless Mr. Dumont will reply.—ED. AM: PHOT:

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DEVELOPMENT.

SIR,—In answer to the letter of "Iso," in last week's issue, recommending dry pyro developer for the development of lantern plates, I must confess I have not yet had experience with same, but have seen some lantern slides which have been developed with this developer, and I think if anything it gives better coloured slides than hydroquinone, and I think it will not be doing any harm to give this developer a try. When I have developed a few plates with it I will write as to result.—Yours, etc.,
W. H. ELLIS.

Highgate, Nov. 11th, 1891.

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HAND-CAMERA FOR SOUTH INDIA.

SIR,—Would you kindly tell me (or perhaps some of the experienced readers of your paper) what is the best hand-camera to stand a damp tropical climate. I see the Facile highly spoken of in your columns. Among others, I have used a Swinden and Earp's, but the paper backing of the plates is a great objection.

It seems to me that the simplest possible arrangements for changing the plates should be aimed at, with as little mechanism as possible. The bag or cloth arrangement of the "Talmer" would seem simple and not liable to get out of order.

The camera, or rather the lens, should be capable of being focussed to varying distances, as the Swinden and Earp camera, and it is very desirable to be able to alter the stops to different apertures. I am in a dilemma between conflicting opinions and advertisements, and therefore would be grateful for any advice I can obtain through the medium of your paper.

I should have mentioned that a camera that can be placed on a tripod and used for long exposures is a desideratum.—Yours, etc.,
CAPE COMORIN.

NOTE.—We hope some of our subscribers who have worked with the hand-camera in India will *freely* give their experiences.—ED: AM: PHOT:

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CAMERA CLUB, COMMERCIAL ROAD.

SIR,—In reply to Mr. Hatfield's letter *re* a new Camera Club for Commercial Road district, I think, if you will remind him of the existence of our Society, he might be persuaded, in conjunction with his friends, to join us, as we are within easy access of his district. I enclose copy of rules for perusal. Thanking you in anticipation, I am, yours, etc.,
21, Fernelille Road, Dalston. M. A. WILKINSON (Hon. Sec.)

NOTE.—This is another case where we think it would be better to consult with the committee of an existing society before forming a new one.—ED: AM: PHOT:

THE WORK OF PHOTOGRAPHIC SOCIETIES.

SIR,—I have been looking for some replies to your animadversions respecting the work of photographic societies, from the members of those many societies which are constantly availing themselves of the valuable and attractive demonstrations which various manufacturers provide them with, but no such answer being forthcoming, I ask your permission to allow me a word or two.

As most societies are mainly made up of inexperienced individuals, would it not be folly for any of these to pose as teachers or guides? Why, most of them only know "the road to ruin" plates and prints. No, sir, societies have got to educate their members first, and then perhaps some of the latter will be able to "hold forth" a bit.

Of course, "outside" amateurs are not bad in their way, but after all some of them are either prigs, faddists, or air-bladders; and are less useful (except as warnings) than they themselves imagine. Besides, several of these require paying, which societies can't afford; those who go "free gratis" are not easily got hold of.

What, then, I ask, is there for societies but the manufacturer's representative? It is true that his main object is to sell his wares, but this is no reason for giving him the cold shoulder. No doubt he tries to show the particular process at its best, but members present can surely use their wits, and can after the demonstration compare notes. Surely amateurs are not so easily discouraged as you would imply; if so, better for them not to take up photography at all, as the practice is one honeycombed with pitfalls. No, sir, manufacturers are and have been the mainstay of photographic societies; more than that, they are the mainstay of amateur photography. Why, if manufacturers were to stop plate-making, the amateur would be snuffed out! And he should bear the fact in mind.

As for the societies, they can't do without the help of the trade any more than can exhibitions. If makers wished it, they could crush almost any society in the kingdom; they practically smashed up the Crystal Palace photographic show, and it is said that the Photographic Society of Great Britain itself would hardly keep together without trade help.—I am, yours, etc.,
CAPITALIST.

* * * *

SOUTH HORNSEY PHOTOGRAPHIC SOCIETY.

SIR,—Permit me to accept your suggestion that I should give Mr. Percy Legge some information respecting the North Middlesex Photographic Society, as it is evident he is in total ignorance of its working.

Excluding our honorary members, we have seventy active members, one only being a professional photographer.

I cannot understand your correspondent's evident objection to the professional photographer. To my mind it is decidedly advantageous for a society to have amongst its numbers members of the profession, and I regret that we have not more.

I am pleased to be able to inform Mr. Legge that while we have many advanced and capable workers yet we also have many beginners, and I am unable to distinguish between his object and ours, as the aim of my society is to improve and assist its members in the study and practice of the art and science of photography.

The Council is always most anxious to assist in every way all our members, particularly those who are beginners, and in this view elementary subjects are frequently introduced and discussed at our meetings.

During the summer also there are outings every Saturday, when beginners can gain experience as to use of camera and lens in the field. Then, too, some of our members invite beginners to their homes, where they give them practical lessons in development, etc. In fact, I may say that there is such a feeling of good fellowship among our members that we one and all strive to help each other.

The idea that a member would be laughed at if he asked questions upon matters he did not understand is simply absurd, and can only be the outcome of an abnormally sensitive and active imagination. However, if your correspondent will attend one of our meetings we shall be pleased to see him, and he will then learn for himself how we manage our affairs.

And now I would respectfully suggest for his serious consideration whether if the South Hornsey Society is to be limited to "those amateurs who have only just taken up the art and know little or nothing about it," he can hope to meet with any great measure of success.—I am, Sir, obediently yours,

J. MCINTOSH

(Hon. Sec. N. Middlesex Phot. Soc.)

Jubilee House, Hornsey Road, Nov. 9th, 1891.

DARK-ROOM, MADEIRA.

SIR,—For those amateurs who purpose visiting our lovely island, I send you these few lines to tell you that at "Reid's New Hotel" they will find a large dark-room ready for their use; it has been fitted up under my direction, and contains all the necessary tanks, sink, and shelving, the two former being lined with lead. It has a concrete floor, and the window over the developing sink has one thickness of red and one of yellow glass, besides a canary medium screen for working fast plates. All ordinary photographic chemicals can be procured in the island, but plates will have to be brought, as no one stocks them for sale. Amateurs will find the light about the same as in England, and there are fine instantaneous views to be had on the beach when the sea is rough.

I think it only right to mention that "Reid's New Hotel" is the only one in the island that has been designed by a London architect, and is quite a new departure from all the other hotels; the sanitation has been carried out by Banner Sanitation Company, of London, and the hotel itself is replete with all the most modern conveniences, and is now ready to receive visitors. It was at my suggestion that the dark-room was added.—Yours faithfully,

HENRY M. BELL.

Funchal, November 2nd, 1891.



Photographic Procedure.

BY E. J. WALL,

Author of the "Dictionary of Photography."

SECTION II.—THE LENS.

Diaphragms (continued).

The following convenient diagram and table were given some years back in the "British Journal of Photography Almanack":—

The Photographic Society's Standard Diaphragms.—The annexed diagram and table are intended to facilitate the calculation of the proper number with which to mark the diaphragms according to the Photographic Society of Great Britain's Uniform System, which will

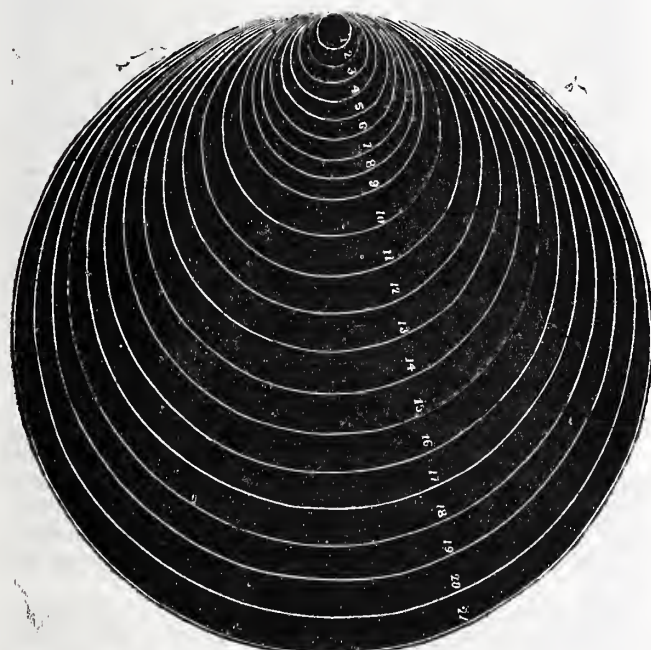


FIG. 82.

be found described on another page. This number it is proposed to call the "U. S." (or uniform system number). The numbered circles in the diagram represent the sizes of stops. The photographer, knowing the equivalent focus of his lens, looks along the

line opposite the number which represents the circle nearest inside to his diaphragm, and when he gets to the column headed by that equivalent focus the number there found is the U. S. number to be marked on the diaphragm. For example: a lens of eight inches equivalent focus has a diaphragm in size about No. 5 on the diaphragm; running the eye along the line opposite No. 5, we find in the column under—"focus eight inches" the number 11, which is the U. S. number required.

No. of Circle.	4 focus	5 focus	6 focus	7 focus	8 focus	9 focus	10 focus	12 focus	14 focus
1	25	39	56						
2	11	17	25	34	44	56	68		
3	6½	10	14	19	25	31	40	56	
4	4	6½	9	12	16	20	25	36	48
5	2½	4½	6½	8½	11	14	17	25	34
6	2	3½	4½	6½	8	10	13	18	25
7	1½	2½	3½	4½	6	8	10	14	19
8	1¼	2	2½	3½	5	6½	8	11	15
9	1	1½	2½	3	4	5	6½	9	12½
10		1	1½	2½	2½	3½	4½	6	8½
11			1½	1½	2	2½	3½	5	6
12				1½	1½	2	2½	3½	4½
13				1	1½	1½	2½	2½	4
14					1	1½	1½	2½	3
15						1	1½	1½	2½
16							1	1½	2
17								1½	7½
18								1½	1½
19								1	1½
20									1½
21									1

We have stated above that the ratio aperture of diaphragms could be found by dividing the focal length by the diameter of the aperture. This is practically accurate, but not scientifically so. Where the diameter of either or both of the lens combinations is less than the fixed stop, the diameter of the combination is the actual aperture; where there is a fixed stop or a ring of metal in the interior of the lens mount, the diameter of this is the actual maximum aperture. These ratio apertures are strictly accurate when the lens is a single landscape lens, but with all doublet lenses the condensation of the light by the front combinations must be taken into account—especially when comparing either for scientific or lens-testing purposes, the actual ratio apertures, practically we are testing the *effective or working apertures* of the lens. This is by no means a difficult operation, and one of two plans may be adopted. The first is to rack the lens out to its equivalent focus, and to replace the ground-glass or focussing screen by a piece of cardboard or thin metal plate, in the centre of which, and central with the axis of the lens, is punctured a minute pin-hole. The camera should now be taken into a dark-room, and a lighted candle placed close to the pin-hole in the cardboard. On examining the front lens, a circle of light will be faintly visible, or may be rendered still plainer by breathing on the lens or dusting it with a little French chalk or plain powder. A pair of dividers may be used for taking the diameter, and this may be at once read off on applying the same to a foot rule, and the focal length divided by this will give at once the true aperture of the stop.

The second plan is by the aid of a simple mathematical calculation as follows:—

Let D = the true aperture value.

d = actual diameter of diaphragm aperture

f = the focus of front combination.

l = the distance between the plane of diaphragm and the centre of the front combination, which centre is situate midway between the front and back surfaces of such lens.

Then

$$(I.) D = d \times \frac{f}{f-l}$$

$$(II.) d = D \times \frac{f-l}{f}$$

To many doubtless this is all Greek. An example may make it plainer. Let us suppose we have a Euryscope lens of 11 in. focus, the focus of the front combination is 21 in., the distance between the centre of combination and plane of diaphragm is $1\frac{1}{4}$ in.; we want to calculate the value of a diaphragm 1 in. in diameter, then substituting the above values for the letters we find

$$D = 1 \times \frac{21}{21-1\frac{1}{4}} = 1 \times \frac{21}{19\frac{1}{4}} = 1.0632 = 1\frac{1}{16} \text{ in. nearly.}$$

Therefore our stop of 1 in. actual diameter has a true aperture value of $1\frac{1}{16}$ in., not much difference, it is true, but still sufficient to render accurate scientific work an impossibility. It may happen that by this calculation we find this true aperture value greater than the diameter of the front lens; if this is the case, the diameter of the lens is the true value.

Now suppose we have a lens of 16 in. focus, and wish to cut our diaphragms to have a value of $f/8$, $f/11.31$, $f/16$, etc. We know that $f/8$ should be 2 in.; if we disregard the condensing power of the front lens, the focus of front lens being 30 and the distance from centre of this lens to diaphragm plane 1 in., we get then

$$d = 2 \times \frac{30-1}{30} = 2 \times \frac{29}{30} = 1\frac{1}{3}, \text{ actual diameter of } f/8.$$

then for $f/11.31$ we shall get

$$d = (16 \div 11.31) \times \frac{30-1}{30} = 1.41 \times \frac{29}{30} = 1.363 = 1\frac{1}{3} \text{ in.}$$

It is true these measurements show but little difference to the actual diameter of stop, but in portrait lenses the difference is greater, and even in small diameter lenses the difference is sufficiently large to be taken into account when testing lenses. In practice it will be necessary to calculate out the true diameter of diaphragms for the first two only, the smaller diameters being obtained by dividing by 2, 4, etc.

Another method of making the necessary allowance of the condensation of the light by the front lens is to cut the stops in fractions of a focus less than the true focus of the lens, and this may be found in the following manner:—

Let F = the equiv. focus.

f = the focus of front combination.

l = the distance between centre of front lens and plane of diaphragm.

A = the assumed focus.

Then

$$A = F \times \frac{f-l}{f},$$

Or to take the example given above, viz., a lens of 16 in. focus, front lens focus 30 ins., the distance from lens to diaphragm plane being 1 in. we get

$$A = 16 \times \frac{30-1}{30} = 16 \times \frac{29}{30} = 14.13.$$

We therefore cut our apertures for a 14.13 in. focus instead of 16 in. focus.

There is one point in connection with diaphragms which it is essential to note, and that is the ratio aperture is calculated from the equivalent focus, but that in photographing near objects such as portraits or line subjects we have to rack out the camera considerably, and that therefore the ratio aperture of any given diaphragms decreases in proportion to the racking out. An example will make this plainer, perhaps—for reproducing a diagram full size with an $8\frac{1}{2}$ in. focus lens. The distance between the lens and focussing

screen must be 17 in. We have found that a diaphragm marked $f/16$ will give the requisite sharpness, but this aperture is calculated from the equivalent focus. Therefore as the diameter of the aperture of the diaphragm remains constant it is obvious that it cannot now be $f/16$; we must therefore calculate out afresh the ratio aperture:—

The stop is marked $f/16$ and is $\frac{1}{16}$ of the focal length = $8\frac{1}{2}$ in.

$$\therefore \text{Diameter} = 8\frac{1}{2} \div 16 = \frac{1}{32}.$$

The focus when copying diagram is 17 in.

$$\therefore 17 \div \frac{1}{32} = 32, \text{ the new ratio aperture of stop.}$$



A Paper for Beginners.

A FEW days since, in the course of a conversation with one of the members of the courteous staff of the AMATEUR PHOTOGRAPHER, I asked him if a short article upon some of the difficulties experienced by beginners in the art—or, as I have lately seen it called, the art-science—of photography would be of use to him for the pages of the journal. His reply was that he should be very glad of such a paper, and the more especially, he added, because to one who has been at work at photography for some years, it is very difficult to ascertain what the chief stumbling-blocks are which lie in the path of the amateur photographer in his earliest days.

A short recital of the more pronounced difficulties that I have met with in the course of my practice of photography—extending over some twenty months—together with some hints as to the means by which such difficulties may be overcome, will, I trust, be of assistance to some of my brother amateurs in the early stages of their work. And here let me say that I do not claim to have attained to anything approaching excellence in the pursuit of our fascinating art, the most that can be said for my productions being that my friends have been pleased to remark, as regards some of them, at any rate, “They are very nice indeed. How well you do them!” Of course, at first I was delighted, but I have now learned that which I am sure most of my readers well know, namely, that such praise is no criterion of the excellence of one’s work from an artistic or photographic point of view, but nevertheless I would not by any means discount the encouragement that such expressions of approval possess for the embryo amateur photographer. If rightly accepted and valued, they should make him strive all the more earnestly for further and truer excellence, instead of remaining satisfied with the approval of those who, in addition to being naturally disposed to view his efforts with a kindly eye, are not, in the great majority of cases, qualified to give an opinion from an artistic point of view. If any reader of the class for whom this paper is written, feels that “the cap fits,” let him, as I have done, send one of his most cherished prints—the admired of his relations and friends—to a competition promoted by this paper, and he will at once find its true value. If successful, the opinion of his friends will be justified; if otherwise, the lesson is obvious, and he will in addition obtain an unbiassed and valuable comment upon his work.

And now, after this short homily, I will proceed to the more practical part of my paper, which I will repeat is intended for the perusal of amateur photographers who are in the very earliest stages of their work. When I first took my apparatus into the field, and attempted to set up the camera, I found that the legs of the tripod had a very unpleasant trick of getting into the most awkward postures,

and it was by no means an easy task to get the camera level. *Remedy*, always place one of the legs directly in front of, and pointing away from you, with the other two on either side; it is then easy to stand close to your camera, and the levelling can be accomplished by means of the front leg only.

Do not imagine that you can make a picture of every "pretty bit" you come across—many views which look charming on the focussing screen give but poor results as prints. The reason is obvious; the natural colours cannot, as yet, be reproduced by photography. In my very early days I was in the habit of "taking" everything, the result being a waste of plates and chemicals and few pictures. Now I take fewer negatives and secure more pictures. Before deciding to take any view, look carefully at it, and consider whether it is likely to make a good photographic picture, remembering that you want light and shade in fair contrast with some intervening or half tones.

Exposure.—I have never used any exposure meter, and cannot therefore say what are the advantages and disadvantages of such an instrument, but I do not quite see how elaborate calculations can be easily made on the spot, to say nothing of the chances of the light changing during the operation. Note carefully the particulars of each exposure, *with the result*, in your note-book; then, before deciding how long you will exposure your plate, see if you can find the particulars of the exposure given to a somewhat similar subject—the greater the similarity the better—and calculate accordingly.

Commence work with a good plate, and if you are successful, stick to it. Each maker recommends his own formula, and you will get like some of your plates—fogged—if you have a dozen different developers in use before you are thoroughly proficient with one of them. By using one formula only—and that should be the one recommended by the plate-makers—you will soon learn what you could do with it, and how the plate should behave under its influence so as to produce a good negative. Besides this, the different makes of plates vary considerably in their rapidity and in other important respects. If you find that your developing solution does not flow evenly over the plates, soak them for a minute or two in plain water first, just to soften the film. If you do not rock the developing dish all the time—and it is rather tedious work with a slow developer—be sure that it stands level, otherwise, especially if you are using a small quantity of solution, you will probably find that one portion of your plate is almost dry! If you use pyro and ammonia, your negatives will probably not turn out very bright and clear; if such be the case, treat them to a three minutes bath in the following solution, and you will be astonished at the result:

Saturated solution of alum 20 oz.
Hydrochloric acid 1 "

Since I have used pyro and soda for developing, I have had no necessity to use a clearing bath. In developing remember the old maxim, *festina lente*—hasten slowly—and feel your way by using the accelerator, whatever it may be, almost drop by drop. I have saved many plates by working slowly, which I should otherwise have lost, or, at any rate, partially spoiled. I have recommended the use of the plate maker's formula for developing, but don't be afraid to vary it a little if you think such variation will give better results or overcome some of your troubles; in other words, work with your brains and not as a mere machine. It is obvious that a solution of a given strength cannot suit every kind of negative.

Prints.—I shall only refer to silver printing, as the majority of beginners commence with that process. When you have acquired proficiency with the silver prints, you can

proceed to one or more of the many other beautiful processes in use. I constantly see in the AMATEUR PHOTOGRAPHER almost agonised appeals for a formula for producing "that beautiful purple, or violet, tone." But why strive so earnestly for that particular shade, which, after all, really suits but very few classes of subjects? With the bath I give below, the most charming browns, of almost any shade, and, if desired, the purple tone, can be obtained, and the older the bath grows the better it works.

Stock Solution.

Borax	330 gr.
Acetate of soda	180 "
Bicarbonate of soda	90 "
Distilled water	20 oz.

Bath.

Stock solution	10 drms.
Chloride of gold	1 gr.
Distilled water	10 oz.

Mix two hours before using. Retain the bath after each toning, and use instead of water for new bath.*

But the tone and quality of the prints are not governed entirely by the composition of the bath. I recently toned some prints, all of the same subject, in the same bath, and obtained three distinct shades simply by printing to three distinct depths. Again, the quality of the negative exercises a very considerable influence upon the toning, and it is only from a really good negative that one can obtain a really good print. A somewhat larger quantity of gold than that mentioned in the above formula will considerably deepen the resulting tone of the prints. Don't attempt to tone by artificial light. I toned a batch of prints by lime-light once, and I can assure you I was considerably astonished when I examined them the next morning. It is very difficult to judge the exact tone with a yellow light. In transferring the prints from one washing water to another, or from the toning bath, do not take them up all together, but one by one, and stroke them on both sides with a glass stirring rod to remove as much as possible of the liquid. Prolonged washing makes the prints very liable to tear, and after four or five hours in frequent changes of water, the washing is probably useless. For trimming prints I use a glass cutting shape upon a piece of rolled zinc, which I find does not turn the edge of the knife so much as cutting upon glass, and the shape does not slip about. Don't spare the use of your knife. You will nearly always find, like the gardener, that "the removal of a few branches improves your tree." I find ordinary starch a clean, inexpensive, and capably adhesive mountant. To prevent the prints from curling, immerse them in a bath of clean water, take off the surplus water with blotting paper, and then apply the mountant. I used to get terrible creases at one time, but I hardly ever meet with them now that I damp my prints.

In conclusion let me urge upon you the absolute necessity for patience in all your photographic operations, if success is to be yours; and may I suggest that the following "Don'ts" might with advantage be committed to memory?

Don't expose your plate until you are quite satisfied that you have chosen the best point of view. *Don't* take off the cap until you have drawn the slide. I have discovered that the outside of the dark slide does not receive very much impression of the view, and further remember that your plate will be spoiled later on because you will naturally attempt to develop an image which does not exist.

Don't expose a second plate until you have carefully noted the particulars of the first exposure.

Don't be in too great a hurry to get your negative out of

* "Amateur Photographer's Annual," 1891, p. 121.

the developing dish, and into the fixing solution, so that you may admire it, or otherwise.

Don't stint your prints in the matter of washing before the toning bath is used. I know how anxious you will be to see them change to that "lovely purple colour!"

If you trim after toning, *don't* attempt to do so until the prints are perfectly dry. *Don't* despair if your early efforts are not satisfactory; try to ascertain where the fault lies, and then endeavour to remedy it.

Lastly, *don't* be tempted to try every process you see advertised; master one thoroughly, and you will find that the knowledge thus obtained will be of immense assistance to you when you feel that you may safely launch out a little further.



The Study and Practice of Art in Field Photography.

BY A. HORSLEY HINTON.

THERE is perhaps nothing more detrimental to or more calculated to handicap the progress of the artistic in photography than the haphazard method of picture-making which appears so prevalent amongst our amateur workers—the practice of taking everything as it comes during a day's march without having previously considered the nature of the subjects or the character of the neighbourhood in which one is. It is too often the case that the photographer, visiting a district well reputed for the picturesqueness of its surroundings, arranges his excursions with the camera so as to comprise all that is attractive during a brief visit of some weeks, or even days, and so secure a large and varied stock of negatives from which to make his pictures when opportunity offers.

Thus, for instance, he devotes one day to a ramble over the hills that rise behind the copse of stunted trees, and there, amongst patches of gorse, bracken, and heather, with flocks of sheep and blue hills in the distance, may find much that is interesting and capable of forming pleasing pictures. He sees what he thinks will compose a good picture, photographs it, and passes on. On another day he is off to the river marshes, and between morning and evening will cover many miles of soft and graceful country, securing each bit of scenery which attracts him. A day along the sea-shore, under the cliffs, another in a neighbouring village, and so on, until the attractions of the place are deemed to be exhausted. Such procedure is truly enjoyable, the days pass pleasantly enough, and provided the apparatus be not too heavy, and the weather fair, none will deny this to be a delightful and rational holiday-making.

But now-a-days we are glad to know that there are many, very many of our readers, with whom photography is not a mere pastime, and is more than a "hobby," or interesting occupation for occasional leisure. Competitions, exhibitions, literature, and the Press have all contributed to stir up an earnest desire to attain to greater things, and art is spoken of and discussed by many who beforetime never gave it a thought. He who takes up photography as a kind of elevated plaything generally grows weary of it within a couple of seasons, but the serious student of the art, who sticks to it year after year, seeking to improve his work, must, before he has gone very far, find that there is something necessary to success beyond the mere skilful management of the apparatus and materials; he finds far more than he ever dreamed of depends on the subject and the natural circumstances which surround it. Seeking how he may improve himself, he begins

to read up and unconsciously gets upon the same road as the genuine art-student, and then it is that he realises how wide a field lies before him, and the thing that once seemed almost easy and within his grasp, for which an occasional holiday was taken, and which, whilst absorbing a good deal of time, sat lightly enough upon the mind, becomes a deep and enthralling study, demanding persistent effort and concentrated thought. The photographs of which we were once so proud no longer satisfy, and our work appears full of faults, which we are now eager to correct. Again and again skilful photographers, artists, and able writers urge upon us the necessity for more careful selection of our subjects and close observation of nature—conditions of success which are, alas! beyond the reach of so many.

Probably the great majority of amateur photographers are so situated that this new artistic study can only be attended to in play hours, when the "insolence of office" and the affairs which men call "business" are for a little time put away; and hence it is that the photographic art student works under a disadvantage; he cannot isolate himself and study nature, he cannot "give his skin for art," and labour patiently, even if he would. Yet the future of photographic art, the exomplification of its highest possibilities, rest largely in the hands of this same class of workers, who are so "cruelly scratched" as to appear sometimes almost hopelessly out-handicapped.

It is with the hope of helping such as these that we propose to select some certain examples of landscape and kindred subjects, and by giving the results of study and observation, save our readers who are also serious photographers, to some extent at least, just that time which they may be unable to give. By our side is a capacious notebook containing jottings from all sorts of localities, notes of position, time, light and shade, season and colour, and whilst this last factor to the sum total must be largely neglected in our message to photographers, the others are all important and cannot be studied too completely.

The laws which are said to govern art—the rules of composition, the disposition of lines, of masses, and so forth—have often been taught in these pages, so that the readers of the AMATEUR PHOTOGRAPHER should be to some degree acquainted with each and every principle thus laid down, but we venture to think that had photography commenced with these, its votaries would be fewer in number, and would have been a less interesting class of men. Photographers are a nature-loving race—it is their love of the woods and fields, breezy hill and drowsy vale, that has led them on so far, and if our readers will come with us it is just in this wild theatre that we will listen to what nature has to say. Give deep consideration to written laws, and try to find how much is good therein, still showing sufficient independence to avoid servile obedience.

Let us then for a moment consider wherein the photographic tourist, to whom we made reference at the outset, is at fault. He behaves with the camera much in the same manner as the sportsman with his gun, whereas he should emulate more the method of the naturalist. Sallying forth, bent upon making a good bag, he brings down here a bird and there a rabbit, just as he finds them; but the naturalist wants for his cabinet the *most perfect* and *most representative* specimen, so he waits and watches, nay, he even returns home empty to come again another day; he calculates when the species may be most advantageously studied, and when the individual shall have attained maturity. This should be more nearly our manner of working if we mean to excel. We need not despise the dilettante who flits about from place to place, only be it understood that our purpose is apart from his; he seeks amusement only, we are at least bent upon cultivating ourselves, and

may even flatter ourselves upon something higher—that of learning art and practising it by modern methods which photography has placed within our reach.

The consideration of the great mass of contemporary photographic work leads irresistibly to the consciousness of a wide-spread want of knowledge and absence of observation of those facts and impressions in nature which art seeks to portray, and the cause of such deficiency we have already indicated—want of opportunity. There are scores of picturesque, noteworthy objects in the fields, in the lanes, by wood-side and river-bank, which appear to have been generally overlooked by our photographers; and why? Because of that very lack of persistent observation and study. Because the photographer, haphazard, took what chanced to come to hand, not knowing that this same scene had a more charming aspect at such another hour when the light was different, or at such a season when the foreground was changed and gave a better value to middle distance, or what not. The ease with which the camera secures a given scene has no doubt greatly contributed to this want of consideration, so that one of photography's greatest advantages is in danger of becoming its greatest curse. We are aware that in following up our present line of thought we come dangerously near implying a kind of sequence that observation of nature has led us to formulate a law that certain subjects are best represented at given time and season, etc. This is, however, far—very far—from our intention.

To attempt to establish such rigid relationship between subject and environment would be to deny to the artist the right to exercise individual taste, and would be teaching an artificial system which no true lover of nature would tolerate. Moreover, such a method would tend to destroy all originality, which, far from wishing to even restrain, we would have everyone cultivate and cherish as a priceless jewel—a gem which if preserved in all its native purity will ever emit bright rays which cannot be counterfeited, but which if once contaminated or degraded rarely regains its own lustre but is meritorious only as it reproduces a borrowed light.

The purpose of these chapters is not then to establish any rules, but rather to suggest—then by selecting examples from the fields to attempt to apply the more simple rules of composition, and so perchance to start new trains of thought and indicate fresh channels for practice.

Let our exposures be less promiscuous.

Remember that our art can never entirely realise the beauties of nature, and therefore it behoves us to select her best aspect, so that whilst falling a little below the best we may yet accomplish something not wholly ignoble.

Leave the camera at home sometimes, and go out and watch, remembering that ere the painter starts upon a picture, numerous preliminary sketches, studies, or experiments are made. O photographer, go thou and do likewise.

Reviews.

Die Negativ-Retouche, nach Kunst und Naturgesetzen, ein Lehrbuch der Künstlerischen Retouche. By Hans Arnold. Published by A. Hartleben, Leipzig. Price 6s.

The author has given us here, not only a simple handbook on retouching, but valuable information as to lighting, exposure, and development. Theoretical considerations are first treated of, and then mimicry and physiognomy, which is not the least interesting chapter in the book. The principles enunciated are evidently founded on Lavater's system, and examples of typical faces of well-known men are given as illustrations. The technical instruction is complete and full, and both professionals and amateurs can easily grasp the subject as treated by the author.

Quarterly Examinations in Photography.

Question 18.—Give a formula for reducing negatives, lantern-slides, and bromide prints.

ANSWER.—To reduce a negative. First soak it in water for five or ten minutes, and replace the water with a half-strength solution of sodium hyposulphite (2 oz. to the pint). While soaking in this, put a crystal or two (say 10 gr.) of ferricyanide of potassium (*red prussiate of potash*) into a conical glass, and run water on and pour it off until the crystals are clean and of a bright ruby red. Add a little water, agitate for a few seconds, pour the solution so prepared into a glass, add the hyposulphite solution from the negative, and re-apply. Add more ferricyanide solution if the yellow colour of the mixed solution disappears, or if the reduction is too slow. When the reduction is sufficient, give a final bath of the simple hypo solution, and wash the negative as necessary after the usual fixing.

To reduce a lantern-slide. Mix strong solution of perchloride of iron $\frac{1}{4}$ oz.; hydrochloric acid, $\frac{1}{2}$ oz.; water, 20 oz. Soak the negative in water for a few minutes, then flood it with the iron solution for a few seconds, pour this off, and flood the plate with solution of hypo (2 oz. to the pint) for a few seconds, pour this off, rinse with water, and examine the negative. Repeat the alternate baths and rinsing until sufficient reduction is effected. Give a final bath of plain hypo, and wash well.

Bromide prints may be reduced by the formula given above for negatives; or by a dilute solution of potassium cyanide with iodine or ammonia; or by a dilute solution of copper bromide, or by solution of bromine in water; or by solutions of mercuric chloride, or copper chloride, or by chlorine water. The last named is the best and safest. As chlorine water is not easily made by every amateur, and will not keep, the following cheap and expeditious substitute may be adopted. Mix 1 drm. of solution of chlorinated soda (to be purchased at the chemist's), 1 drm. of dilute hydrochloric acid (1 acid to 10 of water), and half a pint of water. Flood the print with this and watch the result. When the print is almost sufficiently reduced, pour off the solution, wash the print well with water, give a final bath of weak fresh hypo, and again wash well. It is advisable that bromide prints should be washed, alumed, and dried before an attempt is made at reduction.

MONDS.

ENALOF.—(18) You omit to state that after using the acid ferric chloride solution it is necessary to refix.

BRENT.—(18) After chlorising the image it is necessary to refix.

ME.—We still receive your answers late. (15) This question referred to orthochromatic work.

The answers received from the other competitors require no comment. The single landscape lens for Question 7 and prints for Question 17 are now on their rounds. Competitors will advise the examiners, please, of date of forwarding same to the address given. As half the examination is over, it may be of interest to competitors to state that the results so far are very close, and the awarding of prizes will depend almost entirely upon the answers received during the next two months.

QUESTIONS.

(For Questions 25, 26, and 27—latest day for Answers, Nov. 23—see last week's issue.)

28.—Mount a print in optical contact with glass, and forward to the examiners.

29.—Answer the first four queries which appear in the AMATEUR PHOTOGRAPHER of January 9, 1891, page 31.

30.—What is the action of iodine in a dry-plate developer?
Latest Day for Answers, November 30th.

RULES.

1. Answers must be received on the date stated each week in the AMATEUR PHOTOGRAPHER.

2. All answers must be preceded by the question, and should be written on one side of the paper only, and each answer must be on a separate sheet or sheets.

3. A *nom de plume* may be used, and must follow every answer, and be affixed to every specimen of practical work.

4. Answers are not limited in length, but preference will be given to concise answers without unnecessary amplification.

5. Those desirous of competing must apply to have their names entered. As these examinations are intended to encourage the study of the theory and practice of photography, authorities upon photographic matters and contributors to the photographic journals will not be allowed to compete.

NOTE.—No information of any kind will be given to competitors, and nothing but the answers must be included for the examiners. All other communications must be addressed to the Editor.

Marks will be given for all answers, and, when possible, the best three answers will be published. The answer will not be published till the week following receipt of the same, and the examiners criticise each answer sent in, and when no satisfactory answer is received, will supply one. Three prizes will be awarded at the end of each quarter. (Full syllabus on application.)

All communications to be addressed to:—"EXAMINATION DEPARTMENT," AMATEUR PHOTOGRAPHER, 1, CREED LANE, LONDON, E.C.

O. Ney, Berlin S., Prinzen-strasse 96, has forwarded us his price list for professional and amateur outfits, which are complete and by no means expensive. Herr Ney is well known for his magnesium light apparatus, and we have here prices and figures of the principal apparatus he has devised for this work. The catalogue concludes with photo-micrographic, enlarging, and general items.

"Amateur Photographer" Monday Evenings.

ON Monday last, the 9th inst., notwithstanding the festivities of the day (Lord Mayor's Show) and the very inclement weather, a large number of ladies and gentlemen assembled at the offices of the AMATEUR PHOTOGRAPHER to witness the practical demonstration on "Carbon Printing," by Mr. F. Fry, of the Woodbury Company.

Mr. Charles W. Hastings presided, and before introducing Mr. Fry gave the following short history of the "Carbon Process." He said:

"The subject for our demonstration this evening is 'Carbon or Autotype Printing,' and the following brief notes on its rise and progress may be of interest. In 1798 Vanquellor discovered chromium and chromic acid, and stated that the carmine-red salt of silver became purple-red on exposure of light. In 1832 Suckow, Professor at the Jena University, discovered that the chromate salts were sensitive to light in the presence of organic matter. In 1839 Mungo Ponton examined the properties of chromate of silver, and thus discovered the sensitiveness to light of paper impregnated with bichromate of potash. Shortly afterwards Becquerel entered more fully into the action of light on the chromic salts in the presence of organic matter, and came to the conclusion that the colour and insolubility of the image were caused by some reaction which took place between the sizing of the paper and the chromic acid, and proved it by various experiments, confirming thus Mungo Ponton's statement that the chromate image was insoluble. In 1852, Fox Talbot patented a process of photo engraving in which gelatine or isinglass mixed with bichromate of potash was applied to a metal plate and dried and then was exposed under a positive, by which process the gelatine where acted upon by light became insoluble and protected the plate from an etching fluid.

"In 1855 Poitevin patented the first carbon or autotype process, and his patent specification gives two processes, the one in which a mixture of gelatine, or albumen, and bichromate of potash was applied to paper and exposed to light, and the surface damped with a sponge, and then the surface was rolled up with a fatty ink, which adhered to those parts acted upon by light, and, as Poitevin remarks, this fatty image or 'the print may be retained on the surface on which it was first produced, or it may be transferred or printed upon paper or other suitable material, and the operation completed.' This, the first of Poitevin's processes, laid the foundation of photo-lithography. The second consisted of mixing a suitable pigment with the chromated gelatine and applying this to paper. After exposure under a negative, the print was well washed, and the soluble gelatine washed away, leaving an image formed by the pigment imprisoned in the insoluble gelatine.

"In 1857 Sutton suggested the use of powdered charcoal or carbon, really an adaptation of Poitevin's process. In the same year also M. Teshed de Beauregard patented a process similar to Poitevin's. In the following year, 1858, Pouncy, or his apprentice Portbury, prepared carbon prints. In 1859 the Duc de Lynes offered a prize of £80 for a method of producing permanent prints, and the prize was awarded to Poitevin as the originator of the carbon process, and to MM. Garnier and Salmon for a powder or dusting-on process, and to Pouncy for his carbon process.

"We now come to what may be called the starting-point of the present autotype process, and a brief consideration of the situation will render Mr. Fry's demonstration and explanation more readily understood. When a film of chromated gelatine is exposed to light under a negative, the gelatine becomes insoluble, but you are all aware that a negative possesses a good deal of half tones, and consequently the light does not penetrate through on to the film in the same degree all over the negative, so we have a film of gelatine which in some places is rendered insoluble right through to the paper support, in other places only half-way through, in others only superficially; consequently in those places where the light has only acted slightly, the bulk of the film lying next to the paper is soluble. If, then, we place our exposed paper in water and wash away the insoluble portions, we should leave part of the insoluble image attached to no support at all, and this would, therefore, break off and wash away, and we should get no half tones; this, then, was the fault of every carbon pro-

cess up to 1860. In 1858 M. l'Abbé Laboror discovered that the action of light upon such films as asphalt, commenced at the surface exposed, and gradually penetrated through the film in direct proportion to the intensity of the light. In the same year Burnett applied this fact to the carbon process, and Mr. Swan proposed exposing carbon paper through the back, and this plan was improved by Blair. In 1860 M. Fargier patented a process which consisted of coating a plate of glass with chromated gelatine and carbon, exposing under a negative, and the exposed film was then coated with a plain tough collodion, which was allowed to set, and then the plate was plunged into warm water, which dissolved the gelatine still soluble, and the film floated off free and was caught on a sheet of gelatinised paper, and an image was thus obtained with extreme fineness of detail and perfect gradation.

"In 1864 Mr. Swan announced the preparation of his transfer paper, by means of which the paper was removed and the image developed from the back. Slight improvements have doubtless followed, but practically this was the keystone of the arch, the crowning point of a long period of research by various experimenters."

Mr. Hastings in a few words introduced Mr. Fry, who said:—

"The carbon process is one (if not the only) permanent of all photographic printing processes, and is based upon the fact that a mixture of gelatine with any alkaline bichromate is rendered insoluble by the action of light, by incorporating certain colouring matters, consisting of carbon with various other pigments. An image in these colours can be obtained by exposure under a negative. Before I proceed further I will endeavour to give you some idea of the preparation of the tissue. In the first place the gelatine is placed in cold water and allowed to take up as much of the water as it will; it is then melted down by gentle heat, and placed in a churn, one of Kents', such as is used in the dairy. After a vigorous churning it is allowed to rest, when all the bubbles come to the top (an example here shown); it is then allowed to cool, and soon, of course, sets. The bubbles and froth can then be easily cut off. The whole is then remelted, and whatever colouring matter is required is now added, together with the bichromate salt, if the tissue is to be made sensitive; if not, it is omitted. If made sensitive, the later operations must be conducted in a darkened room. The pigmented gelatine is now placed in the machine, to which an endless roll of paper is attached, and which has to pass over several rollers, so that the paper just touches the solution. It is then passed on along the room, and allowed to dry; for this to be done successfully there must be a good current of dry air continually passing through the room. The tissue is then ready for the printer, assuming that it has been prepared sensitive.

"I said just now that the carbon process was one, if not the only permanent of all photographic printing processes, but this needs some qualification, for if you do not use as the basis of your colouring matter some permanent pigment you must perforce have fading. It used to be necessary, in order to obtain the warm tint of an average silver print, to make use of the pigments formed from cochineal. These it cannot be denied are more or less fugitive under the influence of light. This has now been obviated by the invention of Mr. T. R. Johnson, who made most exhaustive experiments with that most useful product of coal tar, alizarine, and now we have a permanent colouring matter equal to any obtained from cochineal, but absolutely permanent.

"Now to resume. We will suppose the tissue to be ready cut to the size of the negative intended to be printed, the filling in being the same as for silver printing, but it differs in this respect, it is not a printing-out process, and, therefore, it is necessary to form some opinion as to the exposure required. This is best done by comparing it with an actinometer, such as the one I hold in my hand. This little instrument is filled with sensitive silver paper, and is gauged by the number of tints a negative requires, if the negative has been made reversed, and this can be easily done by putting the plate wrong way about into the dark-slide, taking care that all surplus emulsion has been removed from the back of the glass. Otherwise you would have, in all probability, a series of most unaccountable marks and smears appearing in your picture. Another method is to make a transparency in carbon, and from that a negative, either enlarged or reduced, according to the desire of the operator and the limits of his apparatus, or by stripping the film off the glass, and printing from the side that was previously in contact with the glass. Whichever of these three methods is used, the carbon process will

be found at once the most simple and easy photographic printing process in existence.

"Having made the required exposure, the piece of tissue is brought into a slightly darkened room to mount. This is done as follows:—The piece of exposed tissue is placed in clean cold water with the piece of transfer paper; the tissue will immediately begin to curl. As soon as it begins to uncurl, put its surface in contact with the coated side of the transfer paper, bringing them out of the water as one; lay upon the mounting board and force into perfect contact by a vigorous application of the squeegee, the tissue being uppermost; then lay aside for five or ten minutes to dry.

"I may here remark that the object of this transferring is doubtless obvious. When you bear in mind what I said at the beginning, viz., that the action of light has rendered the pigmented gelatine insoluble, it would be a matter of impossibility to develop the picture from the face, hence comes the necessity of transferring it to some support and thus getting at the back of the unacted upon portion of the gelatine.

"The five minutes or so having elapsed, we now proceed to development; this is done by placing the adherent pieces in warm water, about 105 to 110° Fahr., and as soon as the warm water has softened the gelatine there will be a slight oozing out of colouring matter at the edges of the paper; then begin to skin off the paper upon which the picture was originally printed and throw it aside, then wash away the soluble gelatine in which the picture is more or less buried. If the tissue is in good condition the development will soon be finished, and when you decide that the requisite amount of detail has been obtained and the high lights clear and bright, the development is stopped by placing the picture in cold water.

"The development is very much under control, inasmuch as an over-printed picture can be reduced by using hotter water and longer soaking, whilst an under-printed picture can be frequently saved by careful manipulation in cooler water.

"After development the picture is taken to the alum bath in order to thoroughly discharge all the remaining traces of the bichromate salt, and to render perfectly insoluble the finished print. Nothing now remains but to thoroughly wash away the trace of alum from the print, and hang it up to dry ready for mounting. There are a number of examples being passed round for inspection. As you will readily understand, the range of colours it is possible to obtain is certainly unique when compared with any ordinary photographic process. Its utility is demonstrated by the fact that in the hands of the merest tyro it is capable of being utilised for purposes of decoration, also by the wood engraver, by the lanternist, for home window decoration, and in ways almost too numerous to mention. The most exquisite pictures on porcelain can be obtained in the simple manner already explained, the printed tissue being squeegeed on to the ground surface of the opal in the same manner as upon the transfer paper, then developed, washed, hardened in the alumed bath and allowed to dry—ready now, as it is a finished picture, or, in the case of an enlargement, for artistic finishing in water or oil colour, or monochrome.

"The purchase of the materials used in the process is now within the reach of all, so that the earnest amateur, with the aid of a squeegee, mounting board, some dishes, and hot water, is enabled to produce quite permanent photographs of pleasant holidays and picturesque haunts, and in the near future permanent photography will perhaps be a *sine qua non* at all our exhibitions. In carbon printing we have a process of great power and flexibility, and from one and the same negative prints widely different can be obtained. Should soft delicate prints be preferred, the tissue needs sensitising with a strong bath; should your choice be for vigorous prints, weaken the bath until you get the desired effect, always bearing in mind that the length of time the tissue is immersed in the bath, and also the mode of drying, whether quick or slow, materially affect the result. Generally speaking, a five per cent. solution is most suitable.

"The paper which the exposed tissue is squeegeed on to is capable of being varied to almost any extent, as will be seen by the examples handed round, to suit any particular wish or artistic effect."

The demonstration was of a thoroughly practical character. Mr. Fry was assisted by an experienced operator, who, under his direction, went through the whole of the operations incident to the production of a carbon print, transfer on porcelain, lantern slides, etc. In the presence of the audience the whole processes

were gone through most fully, satisfying those present that the carbon process—the only really permanent photographic printing process—was within reach of any one having even the most superficial knowledge of photography, and that it was possible, given a good negative, to produce most beautiful prints of varying colour. The specimens shown included almost every kind of pictorial subject, mounted in many forms. Possibly the prints from an amateur's negatives on an ordinary opal lamp-shade proved the most attractive. The very beautiful print, a copy of Sant's, "The Soul's Awakening," which was developed and finished before the audience, was loudly applauded.

Mr. Fry and his operator were besieged by questioners, and it is quite certain that his admirable address will bring about an intense desire to try the "prentis hand" on carbon printing. It is only fair to the Woodbury Company to add here, that the sensitive tissue may be procured of them, and all that is required for carrying out the process. A reference to the advertising columns of the AMATEUR PHOTOGRAPHER will give further particulars.

The next "Monday Evening" is arranged for November 23rd. Mr. Hastings will preside at the meeting, and Mr. E. J. Wall has kindly consented to give a practical demonstration on "Lantern Slide Making." Slides will be made by reduction and contact in cameras of approved make, which will be on exhibit. After the demonstration the lantern slides entered for the "Monthly Competition" will be passed through the lantern and the prizes awarded.

Notes from the Edinburgh Centre.

(BY OUR DISTRICT EDITOR.)

THE 32nd annual meeting of the members of the Edinburgh Photographic Society was held on the 4th inst. In addition to the meeting, which was entirely of a business nature, there was an attraction in the display of the work of members during the past season. This drew together a large turn-out of members. The show was a very fair one, considering the bad weather which was experienced. In point of numbers it was not so large as it might have been, but that, too, may have been owing to the weather. As artistic productions, though there is nothing which will probably take a medal at any general competition, the exhibits were as a rule quite passable. Some, however, must be excepted from this remark, and particularly one in which the branch of a tree was printed into the sky of a landscape, only a portion of the tree trunk being seen. The printing seemed to have been well managed in nearly all the cases. Mounting was not nearly so efficiently done. There was one case of lantern slides, very good, and in connection with them it was noticeable that most of the views, and the best too, were of foreign subjects. Does this argue that the light in Scotland is not good enough, generally, to produce slides, or that slide-making is the work of the better-to-do class of amateurs only, those who have leisure and the means of travelling? Very few professionals showed anything, only two, I think, which was a graceful thing on their part, as they would have swept the board of the awards if they had cared. Another noticeable thing about the exhibition was that silver printing held by far the first place in point of numbers, albumen prints being most numerous, and bromides next, and that there were few platinotypes. The exhibition remained open till Saturday night, during which time it was largely visited. The awards are not yet announced.

At the meeting, Mr. H. J. Blanc in the chair, the report of the Council, which was read, stated that the year began with 343 members; that forty-six joined during the year, and forty-three ceased to be members, leaving the membership at 346. The presentation picture for this season, which had been selected by the Council, was "An Idle Moment," a platinotype by Mr. R. H. Lord, Cambridge, which was exhibited in the Society's exhibition of last winter. The picture is being printed in photogravure by Mr. Jas. C. H. Balmain, Edinburgh. The exhibition, the report went on to say, was not a success financially, but the Council had good reason to be satisfied with the amount and quality of the work shown. The Chairman congratulated the members on the strength of the society, which was, he said, probably the largest society in the city, and he gave a resumé of the arrangements for the winter. The treasurer's report stated that the income during the past year, including a balance of £67 odd, was £172 2s. 5d., and that after meeting all expenditure there was a balance left

of £95 11s. 8d. The treasurer read also a balance of the affairs of the exhibition, which brought out, after a levy of 25 per cent. of the guarantee fund, a balance of £8 13s. 8d. Mr. Blanc was re-elected President, and the other office-bearers were re-elected. In the course of the evening the Chairman intimated that something might be done soon in the way of procuring rooms for the Society.

The last statement was the most important. It has, in fact, been exercising the minds of photographers in Edinburgh for a long time, and if the society does not proceed about the matter soon, it may find itself forestalled. It is the conviction of many that a thoroughgoing club could be maintained by the photographers who reside in and about Edinburgh, which would be of great advantage to themselves, and would also be a convenient halting place for tourists and visitors.

Mr. J. M. Turnbull, Rose Street, Edinburgh, has brought out an improved spirit jet for lanterns, which gives a first-class light where coal gas is not available. The use of the spirit jet is not new, Mr. Turnbull explains, and his improvements consist of alterations in detail which have been suggested by experience. As Mr. Turnbull's experience is probably the largest in Edinburgh, it is safe to say that the article is as near perfection as may be.



Societies' Meetings.

Bath.—An ordinary meeting was held on the 29th ult. Mr. George Powell occupied the chair. A report of the places visited by the Society during the excursion season was read by the Hon. Sec., and a letter from Mr. G. H. Wood, who presented some books for the library. The chairman announced the receipt of a large group photograph of the "Photographic Convention of the United Kingdom," presented by the Hon. Sec., Mr. W. Middleton Ashman. It was of greater interest on account of its having been taken direct by Mr. Ashman in the Sydney Gardens. Mr. Philip Braham, F.C.S., delivered a valuable lecture on the subject of "Light," dealing more especially with effects produced, as phosphorescence, fluorescence, diffraction, interference. These phenomena were severally produced before the audience, and in the case of the two latter were exposed to a sensitive photographic plate and developed on the spot. Mr. Braham's experiments occupied the whole evening, and were fully appreciated by his audience, as evidenced by the applause accorded to the lecturer. At the November meeting the Rev. E. A. Purvis will treat on "Enlarging by Means of Artificial Light."

Belfast Y.M.C.A.—On Monday the 2nd inst. the usual monthly meeting was held, a large number of members being present. The prints in the last two competitions were laid on the table for inspection, the results for October being as follows:—J. H. Hamilton, first place, with a landscape at Port Erin, Isle of Man; second, T. F. Bell; with a well selected harvesting scene; third, Jas. A. Pollock; with "Evening" at Larne Harbour. At 8 o'clock an adjournment was made to the large hall of the Association, where the AMATEUR PHOTOGRAPHER 1891 Prize Lantern Slides were shown to a very large assemblage. As each set was passed through the lantern, hearty applause testified to the delight of all present.

Bradford.—The Society has engaged permanent rooms at No. 7 St. George's Chambers, Westgate, which will be available at all times for the use of members. The Hon. Secretary will be glad to receive the names of any amateur wishing to join the Society.

Brixton and Clapham.—An ordinary meeting was held on the 5th inst., when the President of the Club (Mr. A. R. Dresser) gave a paper on "Toning Lantern Slides," illustrating his remarks by showing some of Fry's slides toned to various colours. The great advantage of his method was that should the colour obtained be not as desired, the plates could be cleared of the tone entirely, and be retoned again and again until the desired tone be obtained. The lecturer did not advise this process for every slide, it being more suited to plates which consisted largely of heavy clouds, and in proof of this Mr. Dresser showed, by means of the lantern, some very fine sea scenes. Next meeting, 19th inst.

Camera Club.—On the 5th inst. Dr. J. J. Acworth read a paper on "The Action of Light and Heat on the Haloid Salts of Silver." Mr. Leon Warnerke occupied the chair. The lecturer gave a demonstration to show that the effect of heating bromide paper before and after exposure to a powerful light gave reversed results. Messrs. Elder, Patterson, and the Chairman followed with remarks. Subsequently Dr. Acworth handed round specimens and read a description of Professor Schirn's enamel-like process of printing, which had been exhibited at the last convention at Bath. On Monday, November 9th, Mr. Lionel Clark continued the course of elementary lectures, with further remarks on lenses. Monday, November 16th, will be a members' lantern evening at the Club. Mr. T. M. Brownrigg will

exhibit a selection of slides. On Thursday, November 19th, Mr. G. L. Addenbrooke will read a paper on "Aluminium and its Application to Photography."

Cardiff.—At the weekly meeting of the above Society held on Friday evening, Mr. C. F. Gooch in the chair, Mr. Fred Cadd gave an interesting lecture on the habits and customs of the Sioux Indians. Mr. Cadd having lived amongst them for several years was able to speak on the subject from personal experience. The lecture was illustrated by snap-shots taken during Buffalo Bill's recent visit to Cardiff.

Carlisle.—On the 6th inst. the AMATEUR PHOTOGRAPHER 1891 Prize Slides gave a great amount of pleasure to a large audience. A large hall was secured and a club lantern by Mr. Steward, of the Strand, was requisitioned. Many lantern nights have been held during the season, and many good lecture sets have been shown, but no one set has given so much pleasure or has been received with so much applause as the 1891 prize collection. The slides by Mrs. Clarke and Messrs. Lee, Austin, and Wade were admired the most.

Cheltenham.—On the 3rd inst. the inaugural meeting of this re-organised Society was held. Mr. E. Wethered, F.G.S., President, after thanking the members for the honour they had done him in electing him President, remarked on the scope there is in Cheltenham for a photographic society, there being so many amateur photographers in the town. The success of the Society, he pointed out, would depend on each member doing some actual work in connection with it, and he emphasised the importance of having a definite object before them in their work. The neighbourhood of Cheltenham contained much of interest to the photographer; there were numbers of old Norman churches with points of architecture which were unique, and he suggested that one of the objects of the Society should be to make a collection of views of these churches and of their historical and architectural features. He also advised those who could to combine microscopy with photography. As to their Society, at present it numbered forty-seven members, and they had excellent accommodation and apparatus at those rooms for enlarging and developing photographs. Mr. Thomas announced that the following had been elected on the Committee:—Mr. Beetham, Mr. Bull, Mr. Bagnall, Mr. Winterbotham, and Mr. Cardew. A practical demonstration was afterwards given in the enlarging room by Mr. J. Howson on the working of lantern-slides, alpha paper, bromide paper, and gelatino-chloride paper.

Coventry and Midland.—This Society has recently gone into new rooms at the Technical Institute, and on the 4th inst. a lecture upon "Lland or Detective Camera Work" was given by Mr. W. D. Welford. Mr. Councillor Andrews (President) took the chair, and said the Society had been formed some eight years, and owing to the kindness of the Committee of the Technical Institute, they were enabled to occupy the fine rooms in which the company found themselves, and the best thanks of the Society were due to the Committee for the concession. The Society was formed to encourage the practice of photographic art, and lectures and practical demonstrations have been arranged periodically. Some 200 pictures were then thrown upon the screen by means of a powerful oxy-hydrogen lantern, worked by Mr. F. J. Harker and Mr. T. W. Owen, Hon. Secretary of the Society. Mr. Henry Sturme, Vice-President of the Society, moved a vote of thanks to the lecturer. He said the lectures were all open to members, who had the privilege of bringing their friends. In addition to this the Society had arranged a syllabus for a series of elementary classes upon photographic matters, especially for instruction of beginners, and these also would be free to the members of the Society. The Society was desirous of increasing its membership, and would welcome all interested in the subject. The subscription was but 5s., and the Secretary, Mr. Owen, would be very pleased, he had no doubt, to receive new names. He would add that it was by no means necessary to possess a knowledge of photography to be a member of the Society. He wished those who imagined that they must be deeply versed in the subject before membership could be obtained to disabuse their minds of that idea. The Society was for the instruction of those who did not know. Mr. W. L. J. Orton seconded the vote of thanks, which was unanimously given. The walls of the room were ornamented with a number of fine photographs, the work of the members.

Croydon Micro.—The ordinary meeting of the Croydon Microscopical and Natural History Club (Photographic Section) was held on the 6th inst., Mr. J. Weir-Brown in the chair, when Mr. W. Low-Sargent gave a very interesting demonstration on uses of the limelight for the optical lantern with appliances. The optical arrangement of the lantern and the use of the regulators were described, Mr. Sargent advocating that no one should operate without the latter. He said about 5 lb. of gas was quite sufficient for an evening's entertainment. The heat of the oxy-hydrogen jet was shown by the combustion of a piece of steel wire, it was well, after having used the lantern to turn off the oxygen first. The construction of the lantern was then explained, with instructions for center-

ing the light, and several carriers were shown. On Friday Nov. 13th the Autocopyist Company had kindly undertaken to give a demonstration on mechanical printing.

Croydon.—The usual fortnightly "Monday evening" meeting was held on the 9th, the President in the chair. The subject for consideration was "Transparency Making," which was ably explained and deftly illustrated by Mr. C. F. Oakley, who in the course of his demonstration showed how the four leading colours (red, blue, black, and brown) are producible, and dwelt upon the usefulness of the toning bath for intensifying those views which after fixing might appear too thin; at the same time there is little or no fear of such being the case, except perhaps where red tones are aimed at. A considerable number of members (about thirty) assembled to hear and watch Mr. Oakley's demonstration, and in the discussion which ensued Mr. A. J. Sargeant advocated that where enlargements are made the transparency plate should be dipped in the erythrosin bath used for orthochromatising ordinary dry plates. The lecturer explained the construction of a cheap, simple, and yet effective drying-box, in which a current of cold air is made to pass amongst plates by means of heat applied with a spirit lamp. Mr. Weir Brown recommended where a thin negative had to be printed from that the transparency should be over-developed, and subsequently reduced with the ferri-cyanide bath, very rich tones being thus attainable. Mr. Carden also bore testimony to the value of the above practice. The discussion was also taken part in by Messrs. Whitaker, Maclean, Blanc, and others. A vote of thanks carried with unusual heartiness evinced the lively satisfaction of members with Mr. Oakley's attractive subject. Mr. J. Packham showed a fine set of photo-micrographic studies illustrating vegetable physiology, their chief photographic interest, however, being in the fact that very satisfactory prints had been produced on the so-called "self-toned" paper. Mr. Packham stated that the full and even tones obtained were due to a prolonged heating of the prints in a gas oven. Mr. C. E. Whitaker handed round some attractive prints done on gelatino-bromide paper, which go far to show that the "printing process of the future" will soon be "of the present." The following fixtures were announced:—23rd November, members' lantern night; 30th November, the AMATEUR PHOTOGRAPHER 1891 Prize Slides, by Mr. Charles W. Hastings; 7th December, a paper by the President. In addition to the above, Mr. Charles Hussey will read a paper in January, and Mr. Weir Brown one in February. A set of lock-up cupboard has been planned for members' use in the dark-room; these have been all secured. Any member requiring a locker is requested to communicate with the secretaries, as it is in contemplation to put up a second set. A few reserved seats for Mr. Hastings' lecture descriptive of the 1891 Prize Slides have been arranged for at sixpence each. Instant application is advised by those requiring this luxury, as the major portion of the tickets were sold on the first night. Particulars of the competition for prints from negatives taken at club excursions were posted on the notice board, the last day for sending in being 31st December.

Darlington.—The annual meeting was held on the 9th inst. Mr. E. Ensor presided over a good attendance. The report and balance-sheet were submitted to the meeting, and showed the society to be in a sound condition. The Secretary, remarking on the future work of the society, said that it was proposed to have the annual exhibition on a larger scale. Instead of three classes as heretofore, there are to be nine, including an open class for photographs and lantern slides. Nearly all the prizes offered are given by members of the society, and are specially attractive. The exhibition will be advertised and schedules ready in about a week's time. It is also proposed to conduct a photographic survey of the "Tees Valley" during the future session, and a lecture, illustrated by prints and lantern slides, will be ready next September, which will be loaned to any other society wishing it. The papers and demonstrations arranged for the monthly meetings will be specially interesting and instructive to beginners. A great many very beautiful slides were passed through the lantern, and were much admired. The following officers were elected for the year:—President, T. Howlett; Vice-President, H. W. Hollis; Treasurer, J. C. Valentine; Hon. Secretary, P. W. Forster, Elmbank, Darlington; Council, Messrs. Luck, Ensor, Davis, Cooper.

East London.—The general meeting was held on the 3rd inst., Dr. Warwick, President, in the chair. After the minutes of last meeting were read and adopted, the following members were elected: Messrs. J. E. Wren, J. Green, Cousins, H. Pohl, W. P. High, P. Goode, E. M. Minns, and W. Child. Prints were received from competitors for the exhibition to be held on Tuesday, Nov. 17th, and forwarded to the Editor of the AMATEUR PHOTOGRAPHER, who has kindly offered to judge same. After passing a vote of thanks to the chairman, the meeting was brought to a close. Tickets for the exhibition can be had on application to the Hon. Sec., Mr. Wilkinson, 21, Ferncliffe Road, Dalston, N.E.

Exeter.—The usual monthly meeting was held on the 3rd inst. Three new members were balloted for and unanimously elected. A

number of circulars were distributed, giving notice and instructions as to the exhibition of members' work on Tuesday, November 24th. The Society has recently purchased an optical lantern, which is available for members' private use. Most of these, however, are quite unaccustomed to the working of the gas apparatus, so the rest of the evening was devoted to an instruction in the management of the lantern. This was kindly undertaken by Mr. Holden, who, after explaining the various methods of producing the oxy-hydrogen light, proceeded to put the lantern together, thus enabling members to follow every detail. When in full working order, he showed several slides on the screen, as did also Major Dowdall, Messrs. Wall, Cole, Loram, and the Hon. Secretary.

Herefordshire.—A meeting was held on the 4th inst. Mr. Parker, in opening the meeting, introduced Mr. Howson to those present, and after a few brief remarks, he called on that gentleman to give his demonstration on the working of a new printing-out paper. Mr. Howson next gave a demonstration on "Lantern-Slide Making," taking an ordinary negative and exposing the lantern plates for ten, fifteen, and twenty seconds to gaslight, also one exposed to an ordinary wax vesta, developing them in the same bath, and all apparently correctly exposed, showing the latitude obtainable.

Holborn.—On the 6th inst., Mr. W. Stevens in the chair, Mr. F. J. Cobb opened a discussion on "Printing." He showed four negatives, from each of which he had taken four prints (bromide, platino-type, alpha, and silver). He gave numerous hints in working these various processes. Mr. Golding was of the opinion that, to produce good results, a worker should be thoroughly conversant with the various printing processes now extant. The print must be made to suit the negative. A negative that will give a bad print by one process may yield an excellent print by another process. Many amateurs, other than beginners, thought that, when the plate was developed and fixed, they had done their work. But it was not so. The photographs are judged by the prints, and it was, therefore, to the printing of the negative that amateurs must devote their attention. An interesting discussion followed, in which the Chairman, Messrs. Bayston, Ebsworth, Amery, and other members took part. A prize had been offered by Mr. Hodges for the best picture taken at the last Club outing, and it was announced that Mr. Fred Brocas was the fortunate winner. On Saturday last forty members and friends sat down at the annual dinner of the Holborn Camera Club, which was held at Anderton's Hotel. Mr. H. Raphael took the chair. Various toasts followed. A visitor proposed "The Holborn Camera Club," coupling with it the name of Mr. Fred Brocas as the originator of the Club. Mr. F. J. Cobb, the Secretary, in responding, apologised for the absence of the President, who was unable at the last moment to attend. He then went on to speak of the work of the Club during the present year. The Club was in a very prosperous condition. The number of members had increased, not only numerically, but in workers. If the Club was to succeed at all they must have enthusiastic workers; they did not want ornaments. Mr. Brocas, in supporting the Secretary, said that when he first mooted the idea of having a London central photographic society, social as well as scientific, his friends were not over-sanguine as to the result. He himself thought he would succeed, and in that, he thought, lay the whole secret of his success. To succeed in a thing, one must have no other thought than that he is going to succeed. The inevitable flash-light photographs finished up a most enjoyable evening. Next Friday, the 13th, Mr. T. C. Hepworth will give a lantern demonstration.

Lewes.—One of the most interesting meetings ever held in connection with the Society took place on the 3rd inst. Mr. J. G. Braden occupied the chair. Mr. E. Brummit was elected a member, Mr. C. E. Collins, of East Grinstead, gave a highly interesting and graphic account of "A Short Tour in Scotland," illustrated with lantern slides. Many of the slides were unique in character, consisting of groups of sea birds, which inhabit the islands on the west coast of Scotland, and one slide of a wild heron's nest with young. Views of Inverness, Edinburgh, etc., were also shown. Councillor Wightman proposed and Alderman White seconded a cordial vote of thanks to Mr. Collins for his highly interesting description of his tour, which was carried unanimously and suitably acknowledged by Mr. Collins. There was a large attendance of members, many of whom expressed their pleasure at the entertaining and instructive remarks of Mr. Collins. The Hon. Secretary suggested that an album should be sent to members, a great many of whom resided in the country, to enable their work to be seen and criticised, and it was resolved to refer the subject to the committee at their next meeting. The President showed a slide which suffered from halation and another of the same subject, in which the evil was entirely avoided by simply backing the plate with black paper coated with glycerine. Several other items of interest were discussed. The committee have arranged for a series of lantern evenings on the third Tuesday in each month during the winter, in addition to the ordinary meeting on the first Tuesday.

Lewisham.—A meeting was held on the 6th inst., when a paper was read on "The Development of Negatives on Gelatino-Bromide

Emulsion" by Mr. Andrew Pringle. He said, the definition of a good negative is very difficult, but a really bad one can easily be told; most of the pretty-looking ones are bad printers, and it may be said that a good negative is one that will give a good print. All the developers now in general use will give good results, but each is specially adapted for certain subjects. The general tendency of hydroquinone is to give contrast, eikonogen, soft and harmonious, and is a good developer for short exposures. By combining the two we get the harmonious result of eikonogen with the pluck of hydroquinone. The pyro having been used a long time by a great number of first-class men and having gone through many changes, is probably the best all-round developer, as it will give either a plucky or soft result as required. The leading characteristic of ferrous oxalate is that it does not reduce the silver where the light has not acted, and when a warm colour is not desired but a clear slide, such as is wanted for diagrams, then the ferrous oxalate is the best. Eikonogen is a vastly useful developer; it brings up the details in the shadows before the high lights have got too dense. A perfect technical negative is one that shows every range of gradation, though, of course, if artists, you must choose for yourselves whether it is to be very soft or plucky, as two plates exposed under exactly similar conditions can be made to give very different results; when once development is started, pyro will give more latitude than any other developer. In an ordinary landscape with a prominent object in the foreground and a long distance, give a very full exposure and use a mild developer. For a dark glen, or what is equivalent to it, an interior, be sure and give a full exposure (quite 99 per cent. are spoilt by under-exposure, it being practically impossible within certain limits to over-expose), and in developing keep down the pyro and bromide, keep up the alkali, and do not develop too far, but stop several stages before an ordinary negative. In portraiture, do not make the negative too dense; in fact, it must be fully exposed, unless you want to lose your friends. For scientific work, hydroquinone is most probably the best, though pyro is also very good. The best way to develop under-exposed plates is with a hammer; pretty-looking negatives are really under-exposed and show that the plates wanted quite double or even three times as long as they had received. If a plate is over-exposed it can be made into a really good negative. Always keep a 10 per cent. solution of one of the citrates handy, so that if it is a case of over-exposure, flood the plate with it; and within certain limits bromide is also useful, but it has the tendency to keep back details. As regards the best alkalis to use with the different developers, the carbonate should not be used with hydroquinone, but the caustics, as the former require very long exposures. Eikonogen with the carbonate is a very good developer. Pyro with carbonate of soda is a very useful developer for the beginner, and should not be used with any bromide. As to quick or slow development, there is practically no advantage whether you take three or fifteen minutes, only the prolonged development will give rather more density than the other. No developer of the present day has as yet beaten the good old pyro-ammonia.—On November 20th, "Art in Relation to Photography," Mr. Valentine Blanchard.

Lowestoft and District.—The members gave the first entertainment of the season on the 7th inst., when a selection of slides by Mr. G. Freeman, E. Estcourt, T. Rose, A. M. Smith, W. Stringfield, F. Evans, and Master Ernest Hume were thrown on the screen by the Rev. A. Wells, assisted by Mr. G. Tillett. The chair was taken by the President, Mr. G. F. Mayhew, who introduced the Society to the audience in a few well chosen words, and he said he hoped the time was not far distant when they would possess a house of their own, in common with other technical education classes. The first views shown were of old Lowestoft, which were much admired, many of them, as well as those of a more recent date, being entitled to rank as works of art. At intervals vocal and instrumental music was given. The pictures were described by Mr. W. Stringfield. A feature of the exhibition was a large number of American slides received from the "Interchange Society, which were greatly admired.

Midland Camera Club.—The ordinary general meeting was held on the 6th inst., Mr. Hall Edwards, President, in the chair. Fifteen new members were proposed, which will make the total membership sixty-three. The Chairman reported progress with regard to the club rooms, and stated that they were getting on very fast now. The President read a very interesting paper upon "The Aims and Objects of a Photographic Club," in which he dealt with the social, scientific, educational, artistic, and other duties. Amongst these he referred to the duties of a club towards the public, and stated that the council had resolved to offer the services of the club to charity schools, board schools, and the like, in the way of lantern lectures, or in loaning slides; and that he was in communication with the Kyrle Society of the town with respect to this. The Hon. Sec. then read a short practical paper upon "The Registration of Lantern Slides," showing examples of his methods. It was announced, amongst other matters, that Prof. Allen had promised a short paper upon "Nitrogen in Photography," and a longer one on February 5th upon "The Philosophy of Restraint in Development," Dr. Leach upon

"The Keeping Qualities of Gelatine Dry Plates," the President upon "Micro-photographic Work," and others.

North Middlesex.—On the 9th inst., the President (Mr. J. W. Marchant) in the chair, an exhibition of members' lantern slides was given to an audience of about 200 members and friends. The following members exhibited slides:—Messrs. Ainsley, Beadle, Chang, Dines, Dixon, Gregory, Johnson, Lathbridge, Marchant, Mummery, Plunkett, Smith, Staveley, Taylor, Treadway, and Wall. Some 230 slides were thrown upon the screen. Mr. Mewell, a visitor, favoured the society with a very fine and varied collection of slides. The next meeting of the society will be held on November 23rd, when Mr. F. E. Jones will demonstrate the working of hot-bath and sepia platinotype paper. A special feature of the demonstration will be that Mr. Jones will develop prints made from negatives which any of the members choose to send him. Members doing so will thus have an excellent opportunity of knowing whether they are getting the best results from their negatives. Visitors, professional or amateur photographers, will be welcome.

North London (Wellington Hall, Islington, N.)—The next meeting will be held on the 17th inst.,—"Bromide Printing." It is hoped that the subject will be opened by Mr. J. A. Bridge. A large attendance is expected. A more convenient room at the above hall has now been secured for this society's meetings. Visitors are invited.

Oxford.—At the meeting on the 3rd inst. the President (E. A. Ryman-Hall) gave the members and their friends an exhibition of numerous slides, made from hand-camera negatives (films). The minutes were then read and signed. On the 9th inst. a conversational meeting was arranged. Mr. H. M. Philipps brought his lantern and over 150 slides were passed through, the object being more a trial of slides than an exhibition. Criticisms were passed of a character which is not possible at a public meeting, and a most useful evening was spent. The result of the show was an addition of forty slides to the Society's Library Loan set of slides.

Paisley (Lantern Section).—The first popular evening of the session took place on the 3rd inst., when Mr. N. M. Smith gave a lecture on the hand-camera, which was prefusely illustrated by means of the oxyhydrogen light, manipulated by Mr. James Mure. Upwards of 100 slides were put on the screen, all made from films. A number of practical questions were asked and satisfactorily answered.

Photographic Club.—At the annual meeting held at Anderton's Hotel, Fleet Street, E.C., on the 4th inst., the following gentlemen were elected as officers for the ensuing year:—Trustees, W. Bedford, Frank Haes; Committee, F. P. Cembrano, jun., Edgar Clifton, R. P. Drage, E. W. Foxlee, J. Guardia, H. M. Hastings, J. Nesbit, E. A. Newell; Curator, H. E. Davis; Recorder, Thomas Bedding; Librarian, C. D. Hesse; Hon. Secretary and Treasurer, F. A. Bridge, East Lodge, Dalston Lane, London, N.E.

Richmond.—Friday the 6th November, was the monthly lantern night. Mr. Ardaseer presided at the lantern, and showed slides by himself and Messrs. Ramsay, Kelsey, Davis, Carolin, and Arthur Hunter, those by the last named including some highly interesting scenes of Central African travel from negatives taken by a relative of Mr. Hunter who had made the dark Continent his hunting-ground. Several new members have recently been elected.

Rochdale and District.—The annual meeting of the above was held at the Society's rooms, 14, Bury Road. Mr. R. M. Jones being voted to the chair, gave a very interesting speech. The Treasurer's and Secretary's reports were read by the Rev. T. P. Spedding, describing the last year's work as being very successful, the winter lectures and summer excursions having been well attended. It was decided that the members of the Society join with the art society in the exhibition to be held in January, the chairman urging on all present to do their best and make it a success. During the evening Mr. T. Leach, Smallbridge, passed round a few prints on a new printing-out paper, which were greatly admired. Mr. Hoyle, Milnrow, had a number of prints, lantern slides, etc., of places visited during the summer. The following officers were appointed: Mr. J. A. Bright, M.P., President; Mr. T. Leach, Treasurer; W. and S. Ingham, 30, Freehold Street, Rochdale; Messrs. Spedding, Hoyle, Jones, Blomley, Beaumont, and O'Neil, committee.

Rotherham.—The monthly meeting was held on the 3rd inst. The attendance was considerably larger than usual. Dr. Baldwin (President) occupied the chair. The annual members' competition awards were announced as follows:—Class A, six untouched negatives: 1, Mr. H. C. Hemmingway (Hon. Sec.); 2, Mr. E. I. Hubbard (Vice-President). Class B, six negatives and prints resulting from society's excursions in 1891: 1, Mr. Hubbard. Class C, six albumenised silver prints: 1, Mr. W. Mason. Six gelatino-bromide prints: 1, Mr. Hemmingway. Six prints (any other process): 1, Mr. Hubbard. Class D, six lantern slides: 1, Mr. G. T. M. Rackstraw (Vice-President); 2, Mr. Hemmingway. The prizes in classes A and D, amounting altogether to £2 2s, had been given by the President. The judges were Mr. B. J. Taylor, Mr. Geo. Bromley, and Mr. Ernest Beck, respectively the President, Vice-President, and Secretary of

the Sheffield Photographic Society. The competition work was afterwards on view. The Fry Manufacturing Company had kindly lent a series of beautiful zoological slides, chiefly from negatives by Mr. Gambier Bolton, and they were displayed by means of the oxy-hydrogen lantern operated by Mr. Leadbeater, the Treasurer.

Sheffield.—A meeting of this Society was held on Tuesday in last week, Mr. J. B. Taylor in the chair. After the usual routine business, and the election of two new members, Mr. T. G. Hibbert gave a practical demonstration, "Lantern-Slide Making by Reduction in Camera," using artificial light and without the aid of a condenser. After a very lucid explanation of the different methods used, the lecturer exposed several plates in the camera, and proceeded to develop same, which came up very satisfactorily, and were afterwards shown in the lantern.

Sydenham.—The members of this club invited their friends and others interested in photography at an exhibition of photographs and lantern slides at the Clarence Hall, Anerley, on the 2nd inst., and the character of the attendance, and the interest manifested on the occasion could not fail to be a source of satisfaction to all concerned. The walls of the room were lined with an excellent and numerous collection of photographs, the different styles of printing lending a pleasing variety to the pictures. During the evening there were two exhibitions of lantern slides, the most successful slides being greatly applauded. The slides as well as the pictures were the work of the members. The lantern was kindly lent by Mr. Sergeant, of the Croydon Microscopical Society, and was worked by Mr. Chapman. The members exhibiting were Messrs. Budd (President), H. Gray (Hon. Sec.), G. Austin, S. Austin, Barlow, Cole, Chapman, Piggott, Pyke, Wiltshire, and Zimmer. Mr. W. Tylar had a helioscopic lantern on view, and the Photographic Artists' Co-operative Supply Association had a stall also.

Tooting.—The first meeting of the session was held on the 4th inst. at the new head-quarters opposite Tooting Junction Station, when the President, by the aid of the optical lantern, exhibited a large number of slides made by members and friends. Mr. W. E. Bond was elected a member of the club. The next meeting will be held on the 27th inst., when the evening will be devoted to lantern slide making by various processes.

West Kent.—The usual fortnightly meeting was held at Sidcup on

the 4th inst., the President (Mr. Andrew Pringle) in the chair. The business having been gone through, Mr. Geo. Davison, Hon. Sec. of the Camera Club, then gave a most interesting lecture on art; he also gave many useful hints on taking a photograph, and pointed out the special treatment given by a pinhole, illustrating same by handing round a large number of very fine prints taken with a lens and without. A hearty vote of thanks having been accorded the lecturer, the proceedings terminated. Next meeting takes place on the 18th inst.—Mr. Andrew Pringle, "Bromide Enlarging."

York.—The annual meeting was held on the 3rd inst. The Secretary's report showed the past year to have been fairly successful, and that the Treasurer had a balance on the right side. The Society has changed its quarters, having secured a most commodious and comfortable room in the Cumberland Hall, on very favourable terms. By the kindness of the President, a dry-plate was given to each member, on condition that he exposed it and brought it to the next meeting and developed it in the presence of the other members. It was decided to give a public entertainment early in the new year.

Wigan.—At the meeting on the 5th inst. the "Yosemite Valley" lantern slides were exhibited, to the delight of a large number of members and friends. Most of the slides are technically excellent, and illustrate in a remarkable degree the massive proportions of the rocks and trees, and the beautiful waterfalls of this world-renowned valley. The slides are accompanied by an excellent description, which was read by the Hon. Sec., Mr. F. Betley. The oxy-ether light, which, along with a Taylor and Hobson objective, showed the slides to perfection, was manipulated by Mr. J. Hodgson.

The Fry Manufacturing Co., 5, Chandos Street, Charing Cross, W.C., have been appointed London agents for Messrs. Walter Griffiths and Co., Ltd., of Highgate Square, Birmingham, and will supply their goods from stock at list prices, so saving carriage.

"Experiences with a Hand-Camera," by R. A. R. Bennett.—Under the above title Messrs. Talbot and Eamer have sent us a little brochure, which they will also send to every applicant on receipt of stamp and address, which describes the use and advantages of their well-known and excellent "Talmer" hand-cameras.

To Correspondents.

All communications for these columns are to be addressed to The Editor, "Amateur Photographer," 1, Greed Lane, Ludgate Hill, London, E.C.

RULES.

1. Write clearly and distinctly on one side of the paper only.
2. Write each Query or Answer on a separate sheet of paper.
3. Write the name and address legibly on the back of each communication, and sign all Queries and Answers with name or *nom de plume*.
4. All matters for these columns MUST be received by TUESDAY MORNING'S POST.
5. The Editor does not undertake to answer questions by post.
6. In answering Queries, correspondents are requested to mention, in every instance, the number and full title of the query referred to.

QUERIES.

5191. **Finishing Bromide Enlargements.**—Will any amateur kindly correspond with me through post, on finishing up bromide enlargements in black and white?—Address with Editor.—IVAN.

5192. **India and Japan.**—Could any of your readers give me some advice about what photographic apparatus to take on a tour to India and Japan. (1) What sort of plates would be best, or would films be preferable; would the latter suffer from the heat of the climate? (2) Can English plates or films be had in the chief towns in India and Japan?—A. R. F.

5193. **Carrier for Bicycle.**—What carrier and bag are best for carrying a half-plate camera and three slides on a safety bicycle; where can they be obtained, and about what price?—CYCLIST.

5194. **Toning Bath.**—Can anyone tell me why my toning bath always gives a black deposit after being kept a day or two? I use acetate bath as you recommend, 30 gr. acetate to 5 oz. water (warm).—T. Y. R. O.

5195. **Painting Lantern Slides.**—I want to paint lantern slides, and require instruction. Will someone kindly start me on the right road, by giving the title of a good book on the subject, or other advice.—A. B.

5196. **Sulphite of Soda.**—Mawson's quinol formula is—

Quinol	A.	4 gr.
Citric acid	B.	1/2 "
Sulphite soda	C.	4 gr. to the ounce
Potas. hydrate	B.	8 gr.
Sulphite soda	C.	8 gr. to the ounce
Pot. bromide	D.	24 gr. to the ounce
Potas. hydrate	D.	8 gr. to the ounce

For over-exposure, D, instead of B, with extra quantity of C. For under-exposure, omit C, in extreme cases add about 6 gr. more sulphite per ounce. Note.—The object of decreasing or increasing sulphite is to give greater or less density. I was under the impression that the only action of sulphite was to slow the developer, hence an increased quantity should give greater density, and therefore for under-exposure decrease the sulphite, and *vice versa*. Also would not a developer with no bromide have a tendency to cause a general red action on the plate?—B.

5197. **Uranium Toning.**—Can anyone give me Scholzig's uranium toning bath for his matt-surface paper to get black tones with printing under green glass?—TED.

5198. **Shutter.**—Would any reader advise the best shutter at a low figure, to fit a half-plate French R.R. lens, not too expensive.—NEVILLE.

5199. **Holes in Negative.**—How are holes or clear spots, also same with dark ring around, taken out and filled in, as the holes print very deep bronze or black spots? I am ignorant on this point. Will gladly accept advice how to take same out, what to fill it in with, how to apply and what to apply with.—AMATEUR.

5200. **Sensitometer Number.**—Would any reader oblige by giving sensitometer number of Ilford plate at 1s. quarter, and 2s. 3d. half plate, and same number of Thomas landscape plates, same price, to work out systematic exposure plates?—NEVILLE.

5201. **Negative Scratched.**—I have a half-plate negative of a place a great distance away, and it has got a scratch on it right across the glass as with a pin point. Could any reader advise how to fill it up so as not to be seen in print, and what it would be filled up with, and how to apply it?—AMATEUR.

5202. **Loan of Negatives.**—Can any of the readers of "ours" oblige me with the loan of negatives illustrating the processes of sugar manufacture, including views of cane sugar plantations, mills, diffusion plants, refineries, or of beet-root cultivation and extraction? I shall take every care of the negatives, pay expenses, and esteem the loan a favour.—G. E. BROWN (address with Editor).

5203. **Reducing Camera.**—Can any brother amateur let me know whether it would be possible to use Griffith's lantern slide making camera for enlarging from quarter-plate to half-plate?—R. A. W.

5204. **Purple Tones.**—Can any reader inform me if I can obtain purple tones by using citric acid in the toning bath?—W. H. E.

5205. **Recovering Silver.**—I shall be glad of particulars if it is possible to recover the silver from the black deposit of a hypo bath? A full answer will oblige.—W. H. E.

5206. **Positive Image.**—Can any reader help me in this query? What ought the appearance of the positive image after developing to be when the negative is laid on black velvet, or in other words, if the negative is that of a portrait and the features have an unnaturally black and gloomy appearance, the dark portions of the drapery, etc., being invisible? Is this a sign of under or over exposure?—W. H. E.

5207. **Development.**—What effect will be noticed in the development by the presence of nitrate or oxide of silver; is it right they will produce a change of development and make the image appear almost instantaneous?—W. H. E.

5208. **Collodion Work.**—What is the cause of the following imperfections in collodion negatives: (1) The image being pale and misty by transmitted light, and nothing whatever can be seen by reflected light. (2) The image is distinct by transmitted light and the shade good, but it is too pale to print from?—W. H. E.

5209. **Uranium Toning.**—After toning a bromide print, that has been fixed, with uranium nitrate, is it necessary to re-fix? I find the whole of the brown tone can be washed out, when not re-fixed.—GEO. LYNAM.

5210. **Lancaster's Instantograph.**—Which is the best set, Lancaster's Instantograph, or Underwood's Instanto. Both at £4 4s., for half-plate.—H. P.

5211. **Platinotype Process.**—Will anyone inform me which is the most easy process of platinotype, the hot or the cold bath? Also which gives the best results?—H. P.

5212. **Black Lines on a White Ground.**—Can any reader give me formula, etc., for producing in black lines on a white ground, copies of tracings, plans, etc.? Also where could I get a paper strong enough to hold the emulsion?—SUNLIGHT.

5213. **Hydroquinone Developer.**—I should be much obliged if anyone could give me a reliable hydroquinone developer with a carbonate accelerator, instead of a caustic? One that would do equally well for bromide paper would be preferred.—N. M. H.

5214. **Hand Camera.**—I am on the look out for a good hand-camera with automatic changer, but it must not be expensive. Can anyone tell me from experience if the Argosy hand-camera, made by E. and T. Underwood, is a good one? Does it take instantaneous portraits well?—Z.

5215. **Alpine Stock Camera Stand.**—Can any reader who has had practical experience recommend a tripod which when closed can be used as an alpenstock? Not being a good pedestrian, I often require a walking-stick, and my folding stand is useless for that purpose. The walking-stick stands I have seen seem too unsteady for my work.—NOVOCASTRIENSIS.

5216. **Indian Regiments.**—Can anyone lend me a plate of the Indian regiments, or tell me in which number of the *Graphic* or *Illustrated London News* it came out? I should also like to know of any other military pictures issued by any of the weekly illustrated papers? The pictures are wanted for copying, in which any hints would be very acceptable.—COLONEL.

5217. **Egypt, Kit for.**—Being ordered to Egypt for the winter, I should be glad of information as to light, what lenses to take, what size camera, and, in fact, any information that anyone can give? Can plates be procured at Cairo, and if so, where? I usually use Paget xxx.—LAINES.

5218. **Camera Bellows.**—Will some reader kindly tell me where I can get instructions for the folding of camera bellows, the square form?—CARPENTER.

QUERIES UNANSWERED.

Oct. 30.—Nos. 5166, 5168, 5169, 5171, 5172.

Nov. 6.—Nos. 5186, 5190.

ANSWERS.

5123. **Lens.**—To answer this query it would be necessary to practically examine the lens. Why don't you send it to the Editor, and ask him to test it for you?—OSIRIS.

5132. **Painted Slides.**—The cause of your trouble is dust, to prevent which I have heard of slide painters filling the room with steam before working. Cover your slides up to dry and filter your varnish.—THE SMITH.

5139. **Opals.**—The effect is good, but not so brilliant as the transparency plate backed with ground glass.—THE SMITH.

5141. **Mountant.**—The following is a mountant which I have used for this year and have found it capital. It will keep indefinitely without losing its sticking properties:—

Bermuda arrowroot (best)	3½ oz.
Gelatine (Nelson's No. 1)	160 gr.
Methylated spirit	2 oz.
Carbolic acid (pure)	12 min.
Water (cold)	30 oz.

Mix the arrowroot into a stiff cream with two ounces of the water, while the gelatine is placed to soak in the remainder. When the gelatine is softened and the arrowroot well mixed, pour all together into an iron saucepan and bring to the boiling point. Keep at this heat for about five minutes, being particularly careful to stir continually from the moment the mixture is placed on the fire. When sufficiently cooked, pour into a basin to cool; when cool add carbolic acid and spirit (previously mixed) in a thin stream with constant stirring. Then bottle and keep well corked. Of course you can mix a smaller quantity.—BLISTER.

5145. **Oberneter Paper.**—Try the formula given by S. C. Genoa, page 86, "Amateur Photographer Annual." Or that given by E. J. Wall, page 121, "Amateur Photographer Annual," using the fixing and alum baths given by the makers of the Oberneter paper. Either of these give beautiful results. The yellow tinge is caused by insufficient washing between the fixing and alum baths.—PETER.

5145. **Oberneter Paper.**—In reply to "North Stafford," I get very good results with this paper by the following method: Wash well, then place in alum bath (alum 1 oz., water 16 oz.) for about two minutes. Wash well again, and place in toning bath made up as follows:

Sulphocyanide of ammonia	2½ drin.
Water (warm)	16 oz.
Add, when cold, gold chloride	3 gr.

When the required tone is obtained, place in the fixing bath (hypo 4 oz., water 20 oz.) for about 15 minutes, and then wash for at least three hours.—H. A. R.

5154. **Burnishing Prints.**—You either do not know how to mount prints for burnishing, or you do not know how to handle a burnisher. Mount your prints with cold water starch, that has been well boiled in a gallipot, let them stand for about an hour in a warm room, or until the face of the prints become concave, then coat the face of the print with the smallest possible quantity of the following solution: Castile soap, 3 gr.; methylated spirits, 1 oz. The bottle containing the soap and spirit to be placed in hot water or in a hot sand bath, to dissolve the soap. Use a small pad of soft linen in putting on the medium, and be careful to remove all superfluous starch from the edges of the prints. When six prints are coated with the medium, the first one will be ready for burnishing. Make the burnisher as hot as can be done with a Bunsen burner, give the roller just sufficient grip to take the print over the burnisher, pass the prints through five or six times and at the same time set them back or up to the desired curve.—PETER.

5160. **Statue of Bruno.**—Does "Nemo" mean the statue of Giordano Bruno lately erected in the Campo dei Fiori, Rome, or the statue of St. Bruno by Houdon

in the Church of Santa Maria degli Angeli, Rome? If "Nemo" will write to me (address with Editor, postage 2½d.), I will be happy to get any photograph he wishes, as I am at present residing in Rome.—BRATTLE.

5162. **Aristotype Paper.**—I seldom find it difficult to obtain good purple tones on Aristotype paper, even from negatives which fail to give me respectable results on any other paper. I always use Fallowfield's combined toning and fixing solution, and find it necessary to make the prints very dark before placing them in the bath. They must never be washed before toning, and the bath requires periodical additions of gold, or else it will certainly give brown tones of a disagreeable kind.—NEWCASTLE.

5163. **Camera Bellows.**—The size and shape of the bellows are the most important things in making them. To find the length of the bellows for a half-plate camera you measure it as follows: Three times the size of the longest side of the plate you use; for half-plate it will be 1½ in. long. The shape will be as you choose either the square or kinnear pattern; the latter is the lighter, but the former the most used. Leather is the best material to make bellows with, but I must say "W. D. K." will wish after he has finished the bellows that he had not started; they are a great nuisance and require a lot of time and trouble. The leather can be bought at any wholesale leather dealer's. The form will all depend on the quality as well as quantity.—W. H. ELLIS.

5166. **Enlarging Apparatus.**—Attach an ordinary half-plate camera to an optical lantern, or by the following arrangement:—A square box is made of one-inch deal, the same height and width as the camera. This box is open at both ends. A portion of the under-side of the box is cut away to allow the baseboard of the camera to fit in, so that when camera and box are placed on a level surface the box fits up close to the focussing screen. The front of the box is made small enough to fit inside the walls of the same, and should be pushed in for about an inch from the end and secured there. In the centre of the front a circular hole is cut—5 in. diameter—and 5 in. mounted condensers fit in it. In the top of the box a lantern chimney is easily fixed, by cutting a suitable sized hole, and fixing a collar of tin in it, on which to slip the chimney. The back of the box is closed by means of a door hinged at the top, consequently opening from the bottom. An ordinary paraffin lamp with a circular wick completes the apparatus. A convenient length for the box is 9 inches. To use this apparatus, the glass is removed from the focussing screen and replaced by a carrier holding the negative; the lamp placed in the box, with the glass passing up the metal chimney; the door at the back partly closed to allow for ventilation, and a fold of some light material of a dark colour thrown over back and sides to prevent the light escaping. A piece of white paper is fastened on to a board, and the board hung up on the wall, perfectly horizontally, by means of a ring at each end. The picture having been carefully focussed on this paper, the lens capped, the other side of the board (on which a piece of bromide paper has been attached) is turned to the camera, suspended by the same rings as before. The exposure is then made, and the board removed to the dark-room. A long table, on which two strips of wood are fastened, forms a useful stand, the camera and lantern travelling between the strips.—BLISTER.

5174. **Platinum Toning.**—This work is of great importance to beginners, and I should advise you to purchase a copy of Mr. L. Clark's "Platinum Toning," price 1s. 3d., which is a very useful book.—W. H. ELLIS.

5174. **Platinum Toning.**—Rev. H. B. Hare gives the following solutions:—

A.	
Gold	2 gr.
Borax	99 "
Water	12 oz.

B.	
Chloro-platinite of potassium	24 gr.
Citric acid	60 "
Salt	96 "
Water	12 oz.

Slightly wet the prints and immerse in A till they are of a warm brown appearance. Remove and place in clean water one minute, then pass into B, when they will speedily turn a purple black. All subsequent operations are the same as usual.—A. W. JAMES.

5175. **Black or Greyish-Black Tones.**—The toning bath for which "F. W. G." requires formula, etc., is a very good bath, keeps well, and gives purplish-black tones. The formula is as follows, Chloride of lime bath:—

Chloride of gold	15 gr. (1 tube)
Common chalk	150 "
Chloride of lime	24 "
Lime water	15 oz.

Add the gold to the chalk, and mix into a paste with a little lime water, leave it for an hour, filter, and wash the filter with the remainder of lime water in which is dissolved the chloride of lime; add 1 oz. of the above to 10 oz. of water for each sheet of paper to be toned, that is, twenty-five quarter-plate pieces, ten half plate pieces, etc., etc. When the bath is old and refuses to tone, add a little chloride of gold and leave for fifteen minutes; or if no smell of chlorine, add a

grain of chloride of lime. This bath you will find will tone well if the foregoing instructions be used, and also clean dishes.—W. H. ELLIS.

5176. **Bellows of Camera.**—I have found that now and then, when using the rising front, mine have required pulling outwards, but never so much as you say. I should return to the makers.—PEN.

5176. **Bellows of Camera.**—I suffered from the same inconvenience as is complained of by "The Dear Dooke," until I adopted the plan of placing an india-rubber band round the top and bottom of the front of my Instantograph, and then drawing three or four of the folds of the bellows forward and fastening them under the india-rubber bands. Since I hit upon this I have never been troubled by my bellows cutting off any of the plate.—A. W. COOK.

5177. **Enlarging Lantern.**—Major Barrington Baker published in the "British Journal Photographic Almanack" of 1888 the following process: Take a deal box capable of holding a forty-two candle power Boge lamp with a 10 in. globe, bore four holes in the bottom and one on top with a chimney for ventilation; cut a window in the side and outside fix a board to hold the camera, or else make an enlarging front with a camera bellows and a board for the lens and a carrier for the negative. Focus the image on a piece of paper pinned on to a drawing board hung on the wall; this is replaced by the bromide paper for the exposure. The negative could be placed in one of the dark slides of the camera, and the joint ought to be made light-tight by means of the focussing cloth. The globe is required on the lamp so as to get even illumination. The exposure is long, so a rapid printing paper ought to be used.—J. G. P. VEREKER.

5180. **Halation.**—It is a good plan to back your plates with black surface enamel paper, which can be obtained at any stationer's, price about 1d. per sheet. Cut the paper to the size of plate, then soak in water until limp, and remove superfluous moisture with blotting-paper. On the black surface smear a little glycerine, to which a small quantity of gum may with advantage be added, and squeegee to the back of plate. Remove paper before or during development.—ISO.

5180. **Halation.**—There are several ways to prevent this misfortune, viz., before exposing, or rather as you fill your slides, backing the plates; the use of thickly-coated and matt-surfaced plates and plates containing iodide of silver, the latter being a certain prevention. In development halation occurs, and the best remedy is to use a quick developer, as it is said a slow developer generally blurs the image.—W. H. ELLIS.

5182. **Size of Image.**—Your query is very indistinct, but perhaps this may help you: $R = \frac{F-p}{p}$ when R = ratio of any dimension in original to the same dimension in copy; F = greater conjugate focus; p = principal focus. For instance, you say, $R = \frac{7}{2}$ inches, and that $p = f$; again D = distance of object from image, which you say is p yards. If you can find F , then you will be able to get the value for R , and R feet will be the size of image. To find F multiply p by $R + 1$. In this case you must focus an object of known size and thus find R .—PEN.

5183. **Enlarging.**—When you have your ordinary camera and the Miltum-in-Parvo arranged as usual, place two paraffin lamps behind the former. The wall lamps with reflectors would be the best to use. Fasten the negative to be enlarged either in the dark slide or in such a way that you can put the focussing screen behind it to diffuse the light. Otherwise you will get images of the flames. Of course, an optical lantern might be used in the same way without the lens.—PEN.

5184. **Arcanum Hand-Camera.**—The outside dimensions of this instrument are 5½ by 4 by 9. The plates are held in light steel sheaths and are changed by means of a bag; the shutter is self-setting and gives either time or instantaneous exposures; the lens is a single achromatic combination, working at $f/10$. I may add that the camera is fitted with a finder and is neatly finished, having nickel-plated fittings. The price is 22s. 6d.—PETER.

5185. **Blisters.**—This misfortune happens more often than any other, I find. If you are a careful worker you will find after you have blotted the prints and as they gradually dry that the blisters will all disappear and cannot be noticed, but the white spots are from handling the prints too much. There is no remedy for this.—W. H. ELLIS.

5185. **Blisters.**—The fixing bath is of the right strength, but to avoid blisters it is necessary to have all the baths of the same temperature. Also, after toning, place the prints in a bath of strong salt and water, say 2 or 3 ounces to the quart, and fix in an alkaline bath by adding 10 or 15 drops of strong ammonia to the fixing bath, and after fixing do not remove the prints direct from the fixing bath, but gradually dilute the bath away. Finally, the washing of the prints must not be too vigorous, but be kept steadily and quietly in motion. If these precautions are adhered to, blisters will be almost entirely avoided. The double albumenised papers are much more subject to blisters than the single.—BLISTER.

5185. **Blisters.**—After treating your prints in the fixing bath, put them into a dish of clean water and

mix a handful of ordinary dinner-table salt in such water. Leave them there for about five minutes and then soak prints in the ordinary way. Blisters will then never be seen.—PIT-A-PAT.

5185. **Blisters.**—1 oz. methylated spirits of wine to every pint of fixing bath is said to be a "perfect cure" for blisters. My own experience is that a much smaller proportion of spirit practically answers the purpose, though from time to time an odd blister appears. Does "Ruby" use a salt bath before and after fixing?—NOVOCASTRIENSIS.

5185. **Blisters.**—Your fixing bath is not too strong. Perhaps you have your solutions at very different temperatures. A little common salt put into the water after fixing will cure them. So many papers, however, are now in the market which never show this defect that I should advise you to change your brand.—PEN.

5185. **Blisters.**—Try 2 oz. hypo to the pint, and add enough strong ammonia to make the bath smell faintly of that alkali. Make up a salt and water bath in your washing tank, about a handful of salt to a quart of water, and transfer the prints to this bath, in which they should remain for about ten minutes. Wash as usual. Blisters have never troubled me since adopting the above plan.—ISO.

5188. **Enlarging Lantern.**—Full particulars were given for this last week. If you want a more elaborate instrument you should buy a book giving instructions for making a proper optical lantern.—PEN.

5189. **Iford Rapid and Special Plates.**—Use your present formula, except that you should begin with 3 min. ammonia for the rapid plates and 2 for the special, and gradually increase it. For the latter plates you will find hydroquinone useful sometimes also.—PEN.

5189. **Iford Rapid and Special Plates.**—It is some time since I worked Iford plates, but I should use the quantities you name, with perhaps half a grain more ammonia bromide. Be careful to add the ammonia by degrees, as rapid plates are rather ticklish things. Allow them plenty of time to gain density, and do not give too much exposure. Shall be glad to hear how you succeed.—ISO.

EDITORIAL.

SPECIAL NOTICE.—We are very pleased to find that replies in this column are so much appreciated, but we should be very grateful if those requiring advice would send their letters to us before TUESDAY MORNING'S post if possible. The time occupied in replying in this column is very considerable, and owing to the often late receipt of letters, many matters have to be left over each week. This we much regret.—ED: AM: PHOT:

J. THOMAS.—(1) H H H H H H pencil is generally used, though, of course, professional retouchers use from H H H. (2) Conté crayons No. 0 to No. 3 are generally used, or a mixture of graphite and crayon. (3) Large bromides are developed just the same as small ones. (4) Whittingham and Co., 43, Charterhouse Square; John Piggott, 117, Cheapside, will supply retouching leads, and both offer special pencils for retouching bromides.

A. H. BOULTON.—Your difficulty lies in the light; what you want is a light of greater penetrative power, like magnesium or the incandescent gas light. Let us hear from you again as to what lamp you have and whether you could arrange for either of the lights we have recommended.

W. E. CROWTHER.—Letter by post.

G. KEMPSEY.—Any optician ought to be able to fit you up with such an arrangement at a very trifling cost, but write to Perken, Son, and Haynott, 99, Hatton Garden, and ask them to quote for fitting up one of their concave finder lenses in a frame, the same as used for single eye-glasses.

REV. HERBERT BARCLAY.—There are reasons for not proceeding with the work at present, even if we are able at a future date to carry out the work.

J. R. WILSON.—We note your post-card. The photograph will be referred to in the *Photographic Reporter* for December.

MIXED JET.—The cylinders are carried by all our English railway companies.

W. L. GRACH.—We are aware that the Imperial Portrait Association is sending circulars broadcast, but we cannot believe that educated people can be gulled into believing the statements sent forth; if they do and send money, they must run the risk.

JAMES SHAW.—As our rules are at present constituted, you cannot enter any of our Monthly Competitions, but are at liberty to enter either "Holidays with the Camera," "Photography at Home," or the "Lantern Slide" Competitions.

THEODORE DAVIS.—Many thanks for the print. You will agree with us that it is not wise to have a heavy background. Hope we shall find you in some more of our competitions.

E. W. MAIR.—The white spots should be placed on the mask face side, and these spots are placed downwards in the lantern next the condenser. The Beechey plates are rapid enough for reduction in the camera.

A. M. WILSON.—(1) We certainly think your cabin interior would be admissible, and you can send in either

two interiors or two exteriors. (2) See our leader last week. We believe the fault lies in using the developer and fixer too often. Always pleased to criticise anything you send, and the subject of the print you send is quite good enough for a portrait competition.

REV. F. PARTIDGE.—Most wide-angle lenses work at f/16, and we should think you cannot do better than get the lenses you mention. We are perfectly satisfied with the work this maker's lenses will turn out.

BASIL.—You will see by a letter on page 334 of last week that an R.R. is by no means necessary, nor that "a single lens is no good for architectural work." You will not turn out better work with an R.R. The opinion of your friends, who sneer and say "Very decent for a single lens," is utterly without value, for the simple reason that, as a rule, a single lens gives more brilliant pictures than an R.R. Why don't you send us some prints up for criticism? and only to hear from you twice in four years is too bad. We are always pleased to help anyone, and if we can't help them they may often help us and our readers by giving us their views of subjects which crop up in our columns. Let us have some prints to look at, and try and give us practical aid, if only by asking questions. We should advise you to join the Hackney Photographic Society; the Secretary is W. Fenton Jones, 6, Victoria Street, King Edward's Road, Hackney.

F. E. R.—You should add a pinch of carbonate of soda to your solution of gold before adding to the acetate, and should dilute the bath when you mix it, and warm it to about 65 deg. F.

P. N. S.—The triple achromatic is composed of three pieces of glass, whereas, as a rule, the ordinary landscape lens consists of two only. The lens we recommended gives sharp definition, and will satisfy anyone.

H. L. D.—You should have told us which particular formula you have been using, whose gelatine, etc. Probably the cause is due to a coarse grain emulsion, or to the want of proper washing, or absence of alcohol in the emulsion. Let us hear what particular formula you have been trying, and whose gelatine. Do not give the plates a substratum, only see that they are absolutely clean.

GEO. GOODRICK, JUN.—The faint yellow tinge in your skies is undoubtedly due to the action of light. Gelatino-chloride paper is very sensitive, and your skies are probably a bit thin; at the same time, ordinary alum has a tendency to give yellow whites, and if you did not wash thoroughly after the alum this would also tend to give you yellowness. (1) Much over-toned, and printed in too strong a light. (2) A little too formal in composition, and your figure is by no means an improvement. (3) See note to No. 1. (4) This is also a little flat, but a pleasing result could be obtained by more careful printing and toning.

O'N. F. KELLY.—Burgoyne, Burbidge, Cyriax, and Farries, 12, Coleman Street, E.C.; Hopkins and Williams, 16, Cross Street, Hatton Garden, E.C. (2) Burgoyne's are still agents, we believe, for Khaulbaum. (3) Burgoyne's offer chemical apparatus; F. E. Becker and Co., 23, Hatton Wall, Hatton Garden, E.C.; J. Orme and Co., 65, Barbican, E.C.; J. Griffin and Co., Garrick Street, Covent Garden, supply apparatus; and Hopkins and Williams, Burgoyne, and Becker, chemicals. (4) We should certainly recommend you to get a single landscape lens, and Suter's will give you every satisfaction.

H. A. J.—Use 600 gr. of acid and 2 oz. of sulphate of sodium.

W. THOMSON.—Probably your fixing bath is acid. Add a little carbonate of soda to it and try again, and, if not successful, send us up some toned and fixed prints.

GEO. E. BROWN.—York and Son, 87, Lancaster Road, Notting Hill, have a set of ten slides called "The History of a Pound of Sugar," which show the cultivation and manufacture.

THOS. BREAKWELL.—Your note has been sent on to "A. E. D."

JOSEPH W. SPURGEON.—The proposed exhibition was noticed in last week's *AMATEUR PHOTOGRAPHER*.

CONFUSED.—If you want us to answer your letter you must send us name and address.

AMATEUR.—We had an application made, and received six negatives of no value whatever, and have stopped the advertisement, as we will not allow such catch-pennies to appear if we can help it.

T. B.—Prints by any process may be entered in our monthly competitions. If kept clean, the zinc trays can be used.

ECONOMIST.—A is the best for so cheap a camera. We have a No. 2B left with us for disposal; it has several so-called improvements. You might call and see it next Monday.

CAPE COMORIN (S. India).—You can send us a draft or order on a London House, and we will examine any apparatus for you, and see that it is in perfect order before being sent to you, and complete the transaction, sending you an account. We do a considerable business for our subscribers abroad in this way.

J. W. ROBINSON.—The want of definition which you complain of is probably due to curvature of the field of the lens. We should recommend you to get a Wray or Suter. The want of density in No. 1 negative is due to insufficient development; you should, as soon as all detail is out, add two or three times the quantity of water to your developer and cover the dish up and allow it to act for some time. When using pyro, as soon as all the detail is out and density refuses to

increase, add double the amount of pyro and double the bromide to the developer and allow it to continue its action. No. 4 is just right for bromide printing; in fact, all your negatives would give you fine results on bromide or platinotype, and good prints from your negatives would stand a very good chance in our competitions. We have retained the print with thanks. All your negatives have a tendency to thinness. Why not try a combined soda and potash developer, which will give you probably more density?

HENRY B. AUSTIN (Orange Free State).—"The Farm, Bloemfontein." This wants something on the right to break it up, and the stepping stones would be much better if you had a fisherman with his rod on one of the stones, and the print is far too white in the high lights.

J. L. COVENTRY.—The best method of softening water is Messrs. Archbutt and Deely's method of adding slaked lime and carbonate of soda to the water. Clark's process for softening water was by adding lime only; his test consists in using an alcoholic solution of soap of definite strength and noting the quantity which has to be added to obtain a permanent lather. Do you want precise particulars how to apply the test? If so, we will let you have them.

A. W. POCOCK.—The reason for the reduction is undoubtedly because your iron solution was acid; also, possibly you had some bromide of potassium in it. Hypo, if freshly made and acid, will bleach the image right out. The rusty stain is only avoidable by using plenty of clearing solution, then wash well and fix.

SNAP-SHOTS.—Gambier Bolton uses, we believe, a Ross symmetrical. You could not do better, as price is no object, than by obtaining one of Zeiss' Anastigmats, series III., or a Suter Aplanat A, No. 00, of 6 in. focus, f/6.3 aperture, or a Wray's special detective lens.

J. M.—If you leave the plates in water all night, and then wash well in the morning, they will take no harm.

BLANCHE.—(1) The blueish tinge is certainly due to iron reacting with the cyanogen salt of the intensifier. (2) Eikonogen, made up according to the developer we suggested, is no trouble, and, with the acid fixing bath, certainly does not stain. We shall have a leader next week on warm tones on bromide paper.

PRESTO.—We do not think the hand-camera is likely to get out of order. We can send you one for examination if you like to pay carriage both ways. Transferotype is not now on the market. You cannot have a better plate for hand-camera work than Paget xxxxx.

G. RANDALL.—The formula you send on post-card is not a developer, as it has no reducing agent in it. Something is missing, probably pyro. Give us some information where you took it from, etc., and then perhaps we can help you.

FALK.—Sorry you have to drop out, but hope to welcome you next quarter. The examiners are right, theoretically and practically. If you work out the equation given in the answer of that question, substituting the data of your lens, you will see they are right.

CARBONATE.—The print would be eligible for river competition; enlargements would not be admissible. We will undertake to exercise the greatest care of enlargement if you send it.

ABROAD.—We find on enquiry that the vulcanite troughs are not made now, but you can obtain porcelain or lead troughs which will act as well. The acid fixing bath is more suitable than the ordinary, followed by alum.

R. A. R. B.—You will not get a better lens than the Optimus R.R., unless you care to spend about £10 for a Zeiss triplet.

IN THE DARK.—All that is necessary is to use a candle to focus by, and then burn from 12 to 18 in. of magnesium ribbon to make the exposure.

J. O. M. GEORGE.—Letter by post.

F. TURNER.—(1) You cannot do better than obtain the lantern you name. (2) The hypo was not all washed out and the clearing bath decomposed it, and the image vanished; it is not necessary to use the clearing bath after the acid fixing bath. (3) Letter by post. (4) Our publishers will look up the back numbers and send you.

SCARFISH.—Letter by post.

PIT-A-PAT.—Letter follows by post.

MOUNTED (Torrington).—All photographs for the "Holidays with the Camera" competition must be mounted on separate mounts.

THOS. B. EARLE.—See "Our Views." "Photographs of the Year" will be published very shortly at 10s. 6d. It has been well advertised, and your communication should have been addressed to the publishers.

L. R. STRANOEWAYS.—We will make enquiries and write you later.

H. MOLYNEUX.—The photograph should not have been framed; we will, however, try and trace it. All competition prints are criticised in the *Photographic Reporter* and are retained for our loan collection.

W. WALLACE.—Will give a good formula next week. GEO. RAYMOND (Corfu).—We have the lens for sale, not for exchange.

ALFRED RUSSELL.—The awards will be published next week.

ARTHUR BONSAAL.—Before we can move in your case we must have undeniable references.

HERBERT C. BENTLEY.—Very pleased to have your letter. We are looking forward to our visit to Louth with much pleasure.

"AMATEUR PHOTOGRAPHER"

Junior Photographic Competition.

PHOTOGRAPHS have been received from the following:

C. Vaughtin	...	...	London
J. Thomas...	...	...	Port Talbot
C. A. Brightman	...	...	Bristol
C. E. Greaves	...	...	Liverpool
A. H. Watson	...	...	Tynemouth
G. C. Veale	...	...	Settle
J. M. dos Remedios	...	...	London
A. S. Cachemaille	...	...	Oldham
A. Russell...	...	...	Grays
A. L. Strange	...	...	Eastbourne
D. McKenzie	...	...	Edinburgh
F. E. Birch	...	...	Fleetwood
W. H. B. Clarke...	...	...	Harrow-on-the-Hill
D. J. Gadsby	...	...	Brighton
A. W. Fithian	...	...	Upper Tooting
E. J. Hawkins	...	...	Liverpool
B. Thomas	...	...	Spilsby
A. B. Knight	...	...	Hertford
James Laird	...	...	Mount Vernon, N.B.
S. W. Allen	...	...	London
S. Austin	...	...	London
A. C. Newett	...	...	Fleetwood
J. C. Harrop	...	...	Sheffield
H. C. Butterworth	...	...	Buxton
T. W. Crampton	...	...	Birmingham
L. B. Beard	...	...	Clevedon
H. S. Jevons	...	...	London
C. A. Roberts	...	...	Liverpool
H. C. Holden	...	...	Settle
R. E. Eddison	...	...	Settle
W. H. Ellis	...	...	Higbgate
A. C. Ellis	...	...	Higbgate
R. L. Evans	...	...	Hamstead
T. Mathison	...	...	Edinburgh
H. W. Chinnery	...	...	Leyton
F. Gill	...	...	Keighley

Sale and Exchange.

R U L E S.

CHARGE.—Twelve words or less for Fourpence.

Every additional three words, one penny. The name and address of the sender must be paid for. (A single figure, or group of figures undivided by letter, space, stop, or words, counts as one word; compound words count as two words.)

DEPOSITS.—The money for goods forwarded on approval may be deposited with the Publishers of the AMATEUR PHOTOGRAPHER, who will hold the amounts deposited until they are satisfied that the transaction has been completed to the satisfaction of buyer and seller.

COMMISSION.—A charge of 2½ per cent. will be deducted from all deposits whether a sale is effected or not. Minimum charge 1s.

PAYMENT.—All payments are to be by cheques or Postal Orders, made payable to **Hazell, Watson, and Viney, Ltd., 1, Creed Lane, London, E.C.**

Cameras, etc.—Who's-plate camera, reversing back, all movements, brass-bound, three double backs; 110s.; bargain.—5, Park Road, Crouch End, N.

Cameras, Lenses, etc.—Lancaster's whole-plate Instantograph, three slides, Optimus R.R. lens, good stand, and leather bag.—Offers to R. Sissons, 102, Hamstead, Birmingham.

Hand Cameras, etc.—Quarter-plate Presto camera, detective, six slides, new; cost 21s.; take 15s.—Roberts, 97, Cawdor Street, Princess Park, Liverpool.

For sale, Swinden and Earp's hand-camera, holding twenty 5 by 4 plates, very little used; price 5 guineas; cost £8.—Carter, Rearsby, Leicester.

Watson's quarter-plate hand-camera, three double slides, light folding tripod, condition as new; price £5 10s.; cost £10.—F. Morten, Warbury House, South Bank, Surliton.

Splendid hand-camera (by Griffiths, Birmingham); cost £2 15s.; take 38s.; take plates 5 by 4, instantaneous or time; bargain.—Frederick Sharpe, Church Street, Oakham.

Talbot's No. 1 Diamond camera, 12 plates, 3½ by 2½, new; price 15s. cash.—Firth, Oakleigh House, Wakefield.

Marion's Radial hand-camera, quarter-plate size, special Voigtlander lens, carries 12 plates, with table top; £9 10s.—Rand, 17, Spring Gardens, Trafalgar Square.

Lanterns.—Pair Hughes' best Pamphengos lanterns, with accessories, in case, perfect; cost £14; take £8, or £4 each.—Thelwell, Sledmere, York.

Hughes' Pamphengos lantern; what cash offers?—H. Short, Perryn Road, Acton, W.

Lenses, etc.—Ross 10 by 8 portable symmetrical lens, Iris diaphragm, £6 10s.; Perfection candle lamp, 10s. 6d.; Ransome's 10 by 8 copying table, 15s.; De-coudun's photometer, 5s.—Dr. Winter, 4, The Birklands, Hilsa, Hants.

7 by 5 Optimus Eury scope wide-angle lens, new; 55s.—Gambling, Steel Bank, Sheffield.

Taylor's detective lens, 6 in. focus, Iris diaphragm, new, guaranteed perfect; cost £3 17s. 6d.; sell for

45s.; approval; deposit.—Cooper, 1, James Leech Street, Stockport.

Ross' lens, 6 by 5, as new, 65s.; Optimus portable symmetrical, 5 by 4, 33s.—5, Park Road, Crouch End, N.

Dallmeyer's 2B patent lens, £7 10s.; Dallmeyer's 2B, £6; Dallmeyer's 1B, £2 15s.; Lerebours' whole-plate portrait lens, £2 10s. Wanted, 12 by 10 wide-angle rectilinear lens.—J. Biddle, 97, Medlock Street, Hulme, Manchester.

Ross 10 by 8 R.S. lens, £6 10s.; Ross' No. 5 P.S. lens, £3 10s.; Laverne's portrait lens, 8 by 6, 30s.—Dewey, Sidcup.

Sets.—Half-plate camera, lens, double slide, and folding tripod, in splendid condition; for one guinea.—Thomson, 40, St. Mary Street, Peterhead.

Lancaster's 1891 half-plate Instantograph camera and dark-slide, tripod, and R.R. lens, as new; bargain, 60s. 6d.—53, Slad Road, Stroud.

Ronch's whole-plate portable camera, double dark-slide, £3 15s.; Ross 8½ by 6½ rapid symmetrical lens, in leather case, Eclipse shutter fitted, £5 5s.; Argand gas-burner and copper top, 2s. 6d.; Optimus 5 by 4 rapid rectilinear, 22s. 6d.; exchange any with cash for good hand-camera.—Hartshorne, 159, High Street, Uxbridge.

For sale, half-plate camera (by Sands and Hunter), in good order, with many movements, three dark-slides, lens (by Dallmeyer), tripod stand, and some apparatus; £7; cost £13 10s.—May be seen at 37, Far-ington Street (first floor).

Lancaster's half-plate Instantograph, three double backs, with rapid rectilinear lens, tripod, with water-proof case, nine dishes, all sizes, measuring glasses, weights, and scales, printing frames, stoppered bottles, and lot of sundries; also Wall's "Dictionary," and lot of books and annuals; the lot £5 5s.; well worth £9.—Wm. Baron, High Street, Golborne.

Sundries.—Photographic box, equal to new; 7s. 6d.—Walsh, 61, Queen's Park Road, Blackburn.

AMATEUR PHOTOGRAPHER for 1889 and 1890; "Photographic Answers," Nos. 1 to 15; "American Annual," 1891. Wanted, half Meritote lens.—Waddell, 71, Malden Road, N.W.

Quarter-plate 1891 Le Meritoire camera, lens, tripod, slide, with velvet focussing cloth, rebounding shutter, view-finder, cost 37s. 6d., price 25s.; three half-plate metal double dark-slides, with adapter for Instantograph, nearly new, cost 15s., price 10s. 6d.; AMATEUR PHOTOGRAPHER, "Photographic News," "British Journal," this year's issue, to date; what offers?—A. S. B., 9, Grange, Guernsey.

Ross' carte lens, 40s.; good whole-plate portrait lens, 20s.; Vogel quarter-plate portrait lens, 15s.; Newman's shutter, 20s., cost 32s., suit Ross' whole-plate; sliding tripod, very rigid, 8s.; all very cheap; approval.—S., 20, Cleveland Terrace, Darlington.

Slides, three half Instanto, three Specials, new, 6s. 6d. each; camera canvas bag, 3s. 9d.; 7 by 5 rectilinear lens, 25s., and; try it; approval.—Adams, Harold Woods, Essex.

WANTED.

Cameras, etc.—To purchase a half-plate camera and slide; no rubbish.—Particulars to Geo. Randall, High Street, New Brompton.

A thorough, good half-plate camera, with or without lens, cheap, cash; no rubbish.—Frederick Sharpe, Church Street, Oakham.

Good camera body, suit 5 by 4 lens, well finished, good order, dark-slides, complete, cheap for cash, no tripod wanted; full particulars by letter.—Knight, Blackrock, Dublin.

Hand Cameras, etc.—First-class hand-camera, by good maker.—Send full particulars and price to W. Walker, 156, Noel Street, Nottingham.

Kodak, No. 3, complete, with tripod; approval.—Geo. Potts, Carlyle Road, Chesterton, Cambridge.

Magazine hand-camera, of a good type.—Edmund Fox, Castleblayney, Ireland.

Lenses, etc.—Lens, half or full plate, by Ross or Lancaster.—Miss Thomas, Uzmaston, Haverford-west.

A c.d.v. portrait lens, with rack and pinion, by first-rate maker, also a Reflex hand-camera, with three slides, must be cheap for cash.—No. 226, AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.

Ross' or Dallmeyer's 3B rapid cabinet lens, in perfect condition, also half-plate camera and lens, having all movements, with three or more double dark-slides and tripod stand, complete.—Send all particulars and lowest cash price to Thompson, Photographer, Omagh.

Negatives.—To hire 25 quarter-plate negatives, suitable for making lantern slides, views of Liverpool, Mersey, and street scenes preferred.—Wall, Welstor, Ashburton.

Set.—Half-plate Instantograph, one or more double dark-slides, in good order, and cheap, with chemicals and appliances.—Varrall, 113, Shaddeoles Road, New Cross.

Good set, 5 by 4, complete.—Particulars to F. W. Butt Plymouth.

CHRISTMAS CARDS,

Gold Blocked Fancy Edges, for Mounting Photo-graphs on. Sample Packets, 1s. and 2s. Cash returned if not approved of.

HOOPER & CO., 5, Hand Court, Holborn, London.

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CHADWICK'S PERFECT OPTICAL LANTERN is a single one. It is the most perfect Instrument for the purpose for which it is intended. It is light and portable. It is easily managed, complete with 4½ in. condensers and interchangeable objectives of various foci, at less than half the price of an inferior Biunial or Triple Lantern, or say approximately about the cost of a good half-plate Camera. For full particulars see New Catalogue.

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A TOUR THROUGH ITALY, series of 50 slides, most beautiful photographs, with a delightfully interesting Reading, 50s.

THE FORTH BRIDGE, series of 12 Slides showing the principle and constructions, Views taken during erection and on completion, with a highly educational and enjoyable Lecture, price 12s. 6d.

BIUNIAL AND TRIPLE LANTERNS. Although I do not keep these in stock, they can be supplied to order, with very highly polished mahogany bodies, having 4 or 6 doors, and the whole crowded with massive brasswork, polished and lacquered, equal to the finest bedsteads, and when complete with Telescopic tubes, etc., at prices from £30 to £100, depending upon the amount of brasswork supplied, or say approximately about the cost of furnishing a four or five room house.

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THE VILLAGE CHURCH, set of 3 Slides, by Day, by Night, and with Ghost effect, 30s.

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THE BRIDGE IS BROKEN AND I'VE COME TO MEND IT, set of 4 Slides, guaranteed to amuse the youngest school children, 45s.

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MANCHESTER.

THE STEREOSCOPIC MANUAL,
1s. 2d. post free.

No. 372. VOL. XIV.]
FRIDAY, NOVEMBER 20, 1891.
[PRICE TWOPENCE.

OUR VIEWS.

"To hold as 'twere the mirror up to nature,"—*Shakespeare.*

Members of the Editing Staff are "At Home" on Monday afternoons from Two till Five o'clock, and they will gladly give advice upon all photographic matters.

OUR VIEWS.—Dr. Maddox Testimonial Fund—AMATEUR PHOTOGRAPHER "Monday Evenings"—The Camera Club "One Man" Exhibition—Geological Photographs Committee of the British Association—Photographic Survey of Staffordshire—The Suggested Course of Lessons in Photography, and the Proposed Club—The Munster Camera Club—What our Prize Winners Think—The Cheltenham Photographic Society—City and Guilds of London Institute; Technological Examinations—Reversal of the Image—The Humours of "Luke Sharp."

ILLUSTRATION.—"Broomhill Point, Derwentwater," by F. S. Worsley.
LEADER.—Warm Tones on Bromide Paper.

LETTERS TO THE EDITOR.—A Plea for Composition in Photography (Fred Davis)—A Reply to Mr. Sawyer (A Landscape Photographer)—Ladies' Photographic Club, etc. (Effie Annesley—J. Carpenter)—Weights and Scales (W. H. Ellis)—South Hornsey Photographic Society (Harold A. Rutt)—The Multiplication of Minor Societies (J. R.)—Society Suicide (A Retiring Member)—Hand-Camera for South India (Col. W. L. Noverre—Major E. F. Becher—T. Schaeffer and Art Co.—W. T. Sheard).

ICLES.—Photographic Procedure, illustrated (Wall)—Composition, Light and Shade, illustrated (Robinson)—Impressionist Sketches; The Phot. Soc. of Great Britain (Dark-Slide).

NOTES, ETC.—Quarterly Examinations in Photography.
SOCIETIES' MEETINGS.—Bedford and District—Belfast (Y.M.C.A.)—Birkenhead—Birmingham—Blackburn—Blackheath—Brighton—Camera Club—Cardiff—Croydon—Coventry and Midland—Dewsbury—Douglas (Isle of Man)—Guildford—Hackney—Holborn—Hull— Ipswich—Kendal—Leeds—Leicester and Leicestershire—Liverpool Camera Club—Munster Camera Club—Newcastle—North London—Newport—Peterborough—Polytechnic—Phot. Soc. of Ireland—Phot. Soc. of Great Britain—Preston—Richmond—South Hornsey—Tyne-side—West London—West Surrey—Yorkshire Phil. Soc.
APPARATUS.—The "Autocrat" Lantern Transparency Printing Frame—The Orderly Folio—Stereoscopes—The Tachyscope, a Scientific Toy—A Portable Developing Sink—Lanterns—Speelman Prints.

EDITORIAL DEPARTMENT.—All Literary Contributions, Queries and Answers, Photographs for Competition or Criticism, Books or apparatus for Notice or Review are to be addressed to the EDITOR, AMATEUR PHOTOGRAPHER, 1, CREED LANE, LUDGATE HILL, LONDON, E.C. (*All Communications should reach the Editor on Tuesday.*)

TRADE ADVERTISEMENTS are received up to Tuesday morning.

PUBLISHING DEPARTMENT.—All letters containing Subscriptions, Orders Remittances, SALE AND EXCHANGE Advertisements, or other business matters for the AMATEUR PHOTOGRAPHER are to be addressed to the Publishers, HAZELL, WATSON, AND VINEY, LD., 1, CREED LANE, LUDGATE HILL, LONDON, E.C. (*SALE AND EXCHANGE Advertisements, at the charge of Three Words for One Penny, can be received as late as WEDNESDAY MORNING.*)

"Amateur Photographer" "Holidays with the Camera" Competition (Second Year)—Prizes: Gold, Silver, and Bronze Medals, and Certificates; with special prizes of "Niece" or progressive medals for past prize-winners. In all, *twelve prizes* will be placed at the disposal of the judges.

SUBJECTS.—All photographs are eligible that have been taken during the "Holidays," but must be landscape or sea pieces, with or without figures, views of town, photographs of cathedrals, churches, public buildings, etc., but *not* *portraiture, figure study* of pictures which could be classed as "Photographs at Home."

DATE.—All photographs must be received on or before the 31st of December, 1891, **RULES, CONDITIONS, and ENTRY FORMS** will be forwarded on receipt of stamped addressed envelope. The application should be addressed, "HOLIDAYS WITH THE CAMERA," Editor, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C.

"Amateur Photographer" Monthly Competition No. 31—"SEASCAPE AND RIVER SCENERY." Latest day, DECEMBER 1ST.—Prizes: Silver and Bronze Medals, with Ribbon and Clasps. One print only to be sent in. Entry forms, etc., on receipt of stamped envelope. Address: Editor, AMATEUR PHOTOGRAPHER, 1, Creed Lane, E.C.

We have received a circular letter from Mr. Andrew Pringle, Hon. Secretary of the proposed testimonial to Dr. R. L. Maddox, in which he says:—

"The discovery of the gelatino-bromide process has, beyond doubt, conferred benefits upon the art-science of photography which it is difficult to over-estimate, and has been largely instrumental in helping forward every department of scientific progress during the last few years. The amateur and professional photographer, the manufacturer, the man of science—indeed, every individual class in the community—has unquestionably gained, directly or indirectly, by this important discovery, which every photographer knows is due to the experiments of Dr. R. L. Maddox, originally published nearly twenty-one years ago. . . . Dr. Maddox has now attained a ripe old age, and has for many years been a martyr to a most painful disease. Further, much of what was left for his declining years was made away with by an unscrupulous trustee, and now our benefactor finds himself in need of comforts that might soothe his later years. A proposal has been made to celebrate the coming of age of the gelatine process by some acknowledgment to its originator, and the idea has been welcomed by many as a means of testifying to Dr. Maddox our gratitude to him for his free and valuable gift to the world. . . . Already a firm has come forward in a very handsome manner, and other offers of help have been made, and there is no doubt that this example will be followed by many who have reaped the benefit of Dr. Maddox's ability and generosity. A strong and earnest committee has been formed for the purpose of conducting the business of the testimonial, and their names are given below.

"Subscriptions will be received by Mr. Francis Cobb, Riverdale, Twickenham, London, S.W., and cheques should be crossed '& Co., a/c of The Maddox Testimonial Fund.'

"Committee—Chairman: James Glaisher, F.R.S.; (President of the Photographic Society of Great Britain), Captain W. de W. Abney, F.R.S., R.E., C.B.; W. S. Bird, George Davison, A. Haddon, A. H. Harman, Charles W. Hastings, T. C. Hepworth, Dr. A. C. Mercer, (New York), Henry Sturmev, J. Trail Taylor, W. H. Walker, Sir H. Treuman Wood, F. York. Treasurer: Francis Cobb. Hon. Secretary: Andrew Pringle."

We earnestly hope that those "rich in this world's goods" and interested in photography will show their gratitude by liberally subscribing to the fund.

—♦♦♦—

OUR last "Monday Evening" was a great success. The Secretary of a prominent metropolitan photographic society writes:—"Let me take this opportunity of thanking you for the privilege of being present last Monday at Mr. Fry's demonstration of the carbon process. I can assure you I was very much interested indeed. It was the first 'Monday Evening' I was able to attend, but I trust it will not be the last by any means." We would again remind our readers that Mr. E. J. Wall will give a demonstration on "Lantern Slide Making" next Monday.

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We are asked to intimate that the "One Man" exhibition of Mr. Ralph W. Robinson's photographs, now on view at the Camera Club, will close on Friday the 27th inst.

WE have received from the Secretary of the Geological Photographs Committee of the British Association (Mr. Osmond W. Jeffs, 12, Queen's Road, Rock Ferry, Cheshire) a copy of a circular which contains an appeal for assistance in the "collection, preservation, and systematic registration of photographs of geological interest in the United Kingdom." Up to the present time only some 588 photographs have been received. These are contributed by workers in about half the counties in the kingdom. The circular goes on to say that "the Committee greatly appreciate the help that has been afforded from so many quarters, and would respectfully urge upon geologists the

was a fair attendance. Some little opposition was put forward by the photographic section of the North Staffordshire Field Club, an opposition which, if the conveners of the meeting hold their ground, and are determined to do their work, will have little effect. The photographic section of this Field Club is quite unknown to us, and it is not likely to take a very active part or we should have come across them in connection with the photography of the district. We are pleased to note that a sub-committee consisting of Mr. E. B. Wain (an AMATEUR PHOTOGRAPHER Medallist), Mr. W. A. Meigh, and Mr. A. J. Caddie were appointed to lay the matter before the Naturalists' Field Club, with a

"AMATEUR PHOTOGRAPHER" COMPETITION PICTURES.



BROOMHILL POINT, DERWENTWATER.

By F. S. WORSLEY.

desirability of further assisting the scheme with the object of completing a *national collection of photographs illustrating the geology of our own country.*"

Of course there are a vast number of geologists who are not photographers, and an even greater number of photographers who know little of geology, but we should think these photographers would be very glad to take up the work if it were clearly pointed out what was required of them. They only require to know what to do, and we are sure there will be no lack of volunteers.

view of ascertaining whether they were willing to undertake the photographic survey of Staffordshire, and deposit a record of such work in the free libraries of the county. We shall watch the result of the sub-committee with much interest.

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LADIES always take time to consider matters, but we have already received several letters having reference to the course of lessons on photography, and the establishment of a ladies' photographic club. We publish two, and shall be very glad to hear from any ladies who would be willing to spare a little time to discuss both subjects; if sufficient names are sent us, we will arrange a meeting at an early date.

—♦♦♦—
In a recent issue we called attention to the proposal to make a photographic survey of Staffordshire. A meeting was, we understand, held on the 9th inst., at which there

For some time past efforts have been made by photographic workers in Cork to band themselves together, and we have now received official information of the formation of the Munster Camera Club, under the presidency of Major J. D. Lysaght, who is well known as an AMATEUR PHOTOGRAPHER Medallist. The Vice-Presidents are Dr. Ringrose Atkins, M.A., Mr. Denny Lane, M.A., and Mr. Henry S. Noblett. We understand that already some fifty members have been enrolled, and we are sure that the Hon. Secretary, Mr. Denham Franklin, J.P., 74, South Mall, Cork, will be glad to hear from any one interested in photography who may desire to become a member of the club. Ladies or gentlemen are eligible. The subscription is fixed at a low figure. From our knowledge of photographic workers in Munster we have no doubt the club will be a great success.

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THE following rather amusing letter has been received from one of our prize-winners, the President of an important photographic society:—

"The medal awarded me is duly to hand this morning, for which my very best thanks. I admire it more than I can express, and though I have a good many others it shall certainly take centre position in my case, until I can supplant it with one of higher value. The suppressed excitement since it came has been tremendous, and we have not had such a good time since the twins arrived; a house warming to celebrate its arrival is one of the smallest items on the programme of the near future. The request of my eldest joy this morning to 'hurry up, pa, and get a gold one, it will make me such a lovely brooch,' shall certainly be attended to at the very earliest opportunity, as far at least as the 'trying' goes."

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THE Cheltenham Photographic Society has been remodelled. Mr. E. Wethered, F.C.S., F.G.S., F.R.M.S., has accepted the presidency. Excellent club-rooms have been taken in Bath Road, which include, we believe, club-room, library, dark-room, etc., etc. The Society has now more than fifty members, and are preparing for an active winter season's work.

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WE have before us the report of the Technological Examinations, 1891, of the City and Guilds of London Institute, and note that in 1890 there were ninety-four students entered for photography. In 1891 only eighty-five candidates availed themselves of the privilege of the examination, with the following result:—

HONOURS.			ORDINARY.			TOTAL.		Per-centage of Failures
1st	2nd	Fail.	1st	2nd	Fail.	Pass	Fail.	
4	5	4	31	25	16	65	20	23.5

The foregoing table does not point to any very likely interest being taken in photography at the City and Guilds of London Institute. We gave the questions some months ago, it will be remembered, so that if any curiosity may be excited by our publishing the position of candidates, those interested may find further particulars in the AMATEUR PHOTOGRAPHER.

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A CORRESPONDENT has forwarded us a very fine specimen of reversal of the image, the production of which he thus describes: "This is an exposure upon Eastman's film, made in Bruges last September. By an error the smallest stop was used instead of the largest, or only 1-10th of the correct exposure was given. Some half-dozen or more exposures were thus made in error, and some were developed

in the ordinary way, with the result that next to nothing could be obtained on the film. The enclosed was developed with a very strong accelerator (ammonia and carbonate of soda mixed), and fixed as usual. If examined by transmitted light the detail is seen to be there, the picture being of a bright crimson tint." We have before now come across cases of extreme under-exposure resulting in reversal of the image with extremely strong developers, though the generally accepted explanation of reversal of the image is that extreme over-exposure is necessary to cause it, or preliminary or after exposure of the film, or the presence of an acid. In the case in point it is quite possible that some of the solvents used in preparing the celluloid film might have left behind traces of acid sufficient to cause this reversal. We shall commence a series of experiments on this subject and refer to it later on. Certainly the practical result of the reversal will enable our correspondent to obtain a fine negative from his positive by contact printing, and the idea of obtaining reversal with plenty of detail may be suggestive to hand-camera workers.

—♦♦♦—

OUR readers who have enjoyed a hearty laugh over various articles by that humorous writer, "Luke Sharp," may be grateful for the news that that gentleman has written the *Detroit Free Press* Christmas number. Under the title of "In a Steamer Chair," we have a racy and readable story which claims our attention from first to last. "Luke Sharp" has excelled himself in the novelty of the plot and the sparkling character of the dialogue. The story has the great advantage of clever and artistic illustrations by the Misses Demain Hammond. It may be recollected that the Empress Frederick purchased a picture by one of these talented sisters. Altogether, "In a Steamer Chair" is well worth the small sum of sixpence.

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WARM TONES ON BROMIDE PAPER.

THAT there has been and is now a reaction from the rage for black and white pictures, is evident to all. Bromide paper is not intended for warm-toned prints, and it is therefore a round-about method of obtaining these to employ the same, but that there is a demand for warm tones on bromide paper, is evinced by the various processes recommended.

Mr. Clement J. Leaper, F.C.S., has contributed an exhaustive paper to the *Photographic Quarterly* for July, pp. 293—305, in which he concludes that it is possible to tone a finished bromide print with platinum, but not with gold; and that developed but unfixed prints can be toned with platinum and gold. Mr. Leaper also records his experiments of chlorising the image and redeveloping in a weak developer, and toning the warm image thus obtained with gold and platinum.

The most convenient method is undoubtedly by chlorising or bromising the developed, fixed, and well-washed print, and treating the image thus obtained in actinic light with a very weak developer. Mr. Leaper's method is to treat the fixed and well-washed print with a solution of cupric chloride till bleached, then well washing, and then re-developing in sunlight with—

Ferrous sulphate..	..	..	..	150 gr.
Citric acid ..	..	..	..	150 "
Water ..	..	..	..	1 oz.

The image soon reappears of a bright red colour, and is then washed in running water for half an hour, and the print can now be toned as usual with the ordinary gold borax bath and refixed.

Mr. Weir Brown develops his prints with hydroquinone, and then tones them with an acid uranium and ferridcyanide.

nide intensifier. This process is by no means new, and is actually an intensification process, and it is therefore necessary to avoid developing the prints to the full density.

The process which has given the most satisfactory results in our hands is that recommended by Dr. Stolze ("Phot. Nachricht.," 1891, p. 4), which consists of developing with eikonogen, fixing, washing, bleaching the image in a solution of bromide of copper, and redeveloping with a very dilute eikonogen developer. The developer is—

A.—Sodium sulphite	20 parts
Eikonogen	4 "
Water	300 "
B.—Carbonate of potash	50 parts
Water	300 "

For developing the prints, mix

A solution	50 parts
B "	20 "
Water	150 to 180 "

for normal negatives; for hard negatives increase the quantity of B and the water; for thin negatives increase the quantity of A. The print is fixed and well washed, then treated with the following:—

1.—Sulphate of copper	1 part
Water	100 parts
2.—Promide of potassium	1 part
Water	100 parts

Mix these solutions and immerse the print, and when completely bleached, wash well, and then having exposed to daylight or artificial light, redevelop with—

Eikonogen (Solution A)	5 parts.
Potash (Solution B)	2 "
Water	500 "

The image slowly reappears first bright red, then reddish-brown, blackish-red, and finally a deep violet-black. When the desired tone is reached the print is immersed in a solution of citric acid 1:100, or preferably in an acidified solution of sulphite of soda, as follows:—

Sodium sulphite	4 oz.
Tartaric acid	20 gr.
Water	16 oz.

and then well wash. The prints do not require refixing, as some that we have thus treated show no change in colour after four months' exposure to the light.

This is a process extremely easy to work, and the red images can very well be toned with a borax gold bath, and it is also applicable to the toning of lantern slides and transparencies, opals, and enlargements, and gives us also a means to modify the colour of any image obtained by development, and which is not pleasing.



Dark Room at Oban.—Mr. Samuel Lawrence, chemist, Oban, has fitted up a well-appointed dark-room in his premises at 101, George Street. Mr. Lawrence has made arrangements with several well-known London firms to supply him with apparatus, etc.

Mutual Photographic Club.—We called attention to this Club a short time since. The Hon. Secretary, Mr. Thomas Mansell, "Avondale," Westwood Park, Southampton, now advises us that the first album will be issued on Monday, the 25th inst.

Letters to the Editor.

"A PLEA FOR COMPOSITION IN PHOTOGRAPHY."

SIR,—Mr. Lyddell Sawyer is quite right in drawing attention to the improper style of modern criticism, which reminds one chiefly of Mr. Terry's saying in *Sweet Lavender*:

"Blame! blame! blame!
But praise? Oh dear no!"

The modern critic seems to forget that criticism, to be useful, ought not only to condemn what is bad, but also to praise and point out for imitation that which is good and admirable.

Every picture possesses some merit; even if no other, it has that of good intentions, for no one would take the trouble of getting his work up to show-state without intending it to be good, and a little careful consideration will usually find even higher claims to attention. One man having given a graceful pose to his principal figure, another a suitable and cleverly arranged background, whilst a third has properly distributed his objects of interest, the judicious critic will draw attention to these features and so assist the worker to better things ahead, and any one who knows how much labour is required to produce even a simple composition will not begrudge the tiny modicum of praise which is all the artist hopes for.

I quite agree with Mr. Sawyer that the mechanical portion of photography—the lens, camera, sensitive plate, etc.—stand to the finished production much in the position of the painter's canvas, paints, and brushes. The fine art portion lies in the original conception, the subjective element in the artist's own soul, and the sentiment or story portrayed—no matter whether it be delineated by a brush and pigments or by a lens and sensitive plate.

And this brings us to a consideration of what is fine art. The Royal Academy has helped us in this matter by defining what it is *not*, for it refuses admission to any work which is a "mere transcript of the objects of natural history," and whatever other quality it ought to possess it is quite certain that there can be no fine art without sentiment. Regarded in this light it is quite evident that "landscape pure and simple" is not fine art, since it is but a "mere transcript of the objects of natural history."

Many artists consider softness to be a great feature in their works, and we all admire the hallowing hand of time which rounds off the hard corners and rugged outlines of our public buildings. We also appreciate the effect of aerial perspective where "distance lends enchantment to the view;" but we praise it only so long as it is consistent with clearness and truth. Fore-ground objects, as we naturally see them, are crisp and distinct; whilst those further off are more diaphanous. Yet there was exhibited and medalled, I think last year, a photograph so treated that the objects in the front intended for onions might for all one could distinguish in them have been daisies, poppies, or anything else. Fine art is never inconsistent with nature. It takes portions of natural scenery and resets them into a composition, but they always remain portions of nature. Neither is fine art monopolized by sickness, fog, dulness, or poverty. What is more artistic than the Pheidias sculpture of the Parthenon? There we see figures in all the attitudes of health, strength, and vigour, who eat a good breakfast and struck out straight from the shoulder. Misty mornings and green-scummed posts are all very well in moderation, but let us have at the same time some plump girls, vigorous men, well set up houses, and sturdy trees, and then English fine art will be as healthy and praiseworthy as was that of ancient Greece.

Mr. Sawyer is quite in the right path in saying that fine art is "the highest goal in photography," but we need not hope to be Raphaels all at once, we can take humbler flights of fancy and depict the little everyday scenes and people around us.

"The trivial round, the common task
Will furnish all we need to ask"—

EXHIBITIONS.

SOCIETY.	Place.	Open.	Close.	Last date for sending in.	Secretary.
Tunbridge Wells	Tunbridge Wells.	Nov. 25.	Nov. 28.	Nov. 20.	Joseph Chamberlain, 14, Calverley Park Gardens, Tunbridge Wells.
Art Gallery Committee ...	Leeds.	Dec. 7.	Jan. 9.	Nov. 27.	Geo. Birkett, Municipal Art Gallery, Leeds.

in the way of subjects. And we can gain plenty of hints and see any number of examples in the many illustrated periodicals which cover our tables; and then if the critics will give us a little more consideration and a little less blame, photography may one day take its proper place amongst the other fine arts at the great Valhalla in Trafalgar Square.—Yours, etc, FRED. DAVIS.

* * * *

A REPLY TO MR. SAWYER.

SIR,—I gladly offer an apology to Mr. Sawyer for the slip in my letter by which I made it appear that the words (*i.e.*, landscape photographer) were written by him. It is not, however, likely that your readers were misled by the error, as it may be taken for granted that anyone who read my letter in your issue of October 30th, had also read Mr. Sawyer's article in the previous number.

Half of Mr. Sawyer's letter is taken up with abuse, and I must admit that in the use of strong language I am no match for Mr. Sawyer, but I would remind him that abuse is not argument.

The question at issue between us is very simple. It is whether I was justified in assuming that certain remarks in Mr. Sawyer's article referred to landscape photographers or not. Now, while my opponent denies that his remarks were so intended, he unconsciously decides the point in my favour by making the following admission, "The introduction of the superfluous word *such* might convey the wrong impression to others of your readers." Mr. Sawyer explains that the word "*such*" is superfluous, and that by the words "superficial workers" he meant "*any* unskilled worker." The original sentence stood thus, "I consider it a great slur on us generally that it is possible for such superficial workers to obtain reputation as artists without knowledge," etc.

Corrected as suggested by Mr. Sawyer, it will read as follows: "I consider it a great slur on us generally that it is possible for any unskilled worker to obtain reputation as an artist without knowledge," etc. The sentence as it stood was intelligible, but the same cannot be said for the sentence as altered; when read with the context it has simply no meaning at all. "Such superficial workers" evidently referred to what had gone before, namely the display of "misty mornings" and "foggy evenings" at the Pall Mall exhibition, and the suspicion can hardly be avoided that the word "reputation" referred to the medal which had been obtained by the photographer of "A Misty Morning."

But possibly Mr. Sawyer can throw a little more light on his meaning. Judging by his exhibits in Pall Mall he evidently keeps a good supply of the material on hand.

Until he does so I must maintain that it is he and not I who "twists" his words "into statements entirely opposite to the spirit of the complete article." "The spirit of the complete article," according to my understanding, signifies that "the form of work" exhibited by Mr. Sawyer is sufficiently meritorious to deserve a medal, while such pictures as "A Misty Morning" and "Sunset, Winter" are inferior productions and do not deserve a medal. However this may be, I wish Mr. Sawyer better luck next year, though I do not think he will meet with a more indulgent critic than the gentleman who wrote the very fair and able critique on the exhibition of the present year in the AMATEUR PHOTOGRAPHER.—Yours, etc,

A LANDSCAPE PHOTOGRAPHER.

* * * *

LADIES' PHOTOGRAPHIC CLUB, ETC.

SIR,—I am much delighted to see I have got the Bronze Medal for the "Ladies' Competition." My ambition since I joined in your competitions for the last year and a half was to get a medal, and now I feel much encouraged to go on with my favourite pursuit. I am now leaving for Pau (France).

I hope a ladies' photographic club may be soon started in London. I will be very pleased to join it if residents abroad are admissible.—Yours truly,

November 13th, 1891.

EFFIE ANNESLEY.

SIR,—Having seen the paragraph in the AMATEUR PHOTOGRAPHER about a course of lessons and a club for ladies, I beg to say that I hope they will soon be started.

It appears to me that the club especially would supply a want long felt by lady photographers, and I should be glad to join it, also to attend a course of lectures.—Yours, etc.,

November 13th, 1891.

J. CARPENTER.

WEIGHTS AND SCALES.

SIR,—The question put to shop assistants to dealers in photographic materials for weights and scales, both in London and elsewhere, is as follows: "Have you a set of weights and scales weighing up to a quarter or half pound?" The only answer that has been given by the assistants and others is as follows: "No, sir (or madam), we only keep these" (bringing forward a set of weights and scales which only weigh up to one ounce at the most). How is it, sir, we cannot obtain weights and scales weighing up to a quarter or half pound from any, or most, of these dealers? Perhaps you or your readers could answer this simple question for me. I am sure it is not because there is no demand for them, because most, if not every worker requires a set of these scales for his (or her) own use. After trying nearly every dealer in London—where I failed to procure them—I apply to a chemist, who sells me at a reasonable price a set which I required. I am sure no worker in photography can go far up the tree by having a set of scales which only weigh up to one ounce at the most. Awaiting your, or your readers' opinions upon this matter, I remain, yours faithfully,

W. H. ELLIS.

Higbgate, November 11th, 1891.

* * * *

THE SOUTH HORNSEY PHOTOGRAPHIC SOCIETY.

SIR,—Permit me, on behalf of our Chairman and through your columns, to thank your correspondent Mr. J. McIntosh for the reply he made under the above heading. Our Chairman requests me to say that he is indeed pleased to think he was to a certain extent wrong with regard to one Society at all events, but desires me to draw your correspondent's attention to the misconstruction he puts upon his letter in saying, "If the South Hornsey Society is to be limited to those amateurs who have only just taken up the art and know little or nothing about it," etc. I think if Mr. McIntosh will refer back he will find that Mr. Legge did not say it was to be limited to such, or how would its members proceed at all? What he did say was that "it was started to *help* those amateurs," etc.

I see that the head-quarters of the North Middlesex Society are at Jubilee House, which is at least half an hour from our meeting room; and that those of the North London Society are at Wellington Hall, Upper Street, which is nigh upon the boundary of the E.C. district, and about forty minutes away; so that, first, I do not think they can possibly be considered to be in our district, and secondly, are nothing like as accessible as ours, ours being exactly opposite Finsbury Park station, which makes a good difference to persons coming a distance.

Taking everything into consideration, I do not think our Society will in any way harm the prospects of either of the above Societies, but hope it will prove to strengthen the workers in the art and provide instructive amusement to all concerned.

Thanking you in anticipation for the insertion of the above, I am, yours, etc.,

HAROLD A. RUTT (Hon. Sec.)

2, Alexandra Road, Finsbury Park.

* * * *

THE MULTIPLICATION OF MINOR SOCIETIES.

SIR,—Your remarks anent the above subject must meet with the hearty approbation of all interested in the advancement and improvement of amateur photography. There is nothing I view with greater misgiving than the continual mushroom-growth of small and unworkable societies.

In your issue of the 6th inst. there is a paragraph in reference to a new club for those residing in the vicinity of the Commercial Road, E. Now, Sir, let me ask if there is the smallest want felt for a club in that neighbourhood which could not be much better satisfied by the intending members joining one of the existing societies, thus gaining increased advantages and facilities without the trouble, labour, worry, and expense of starting a new concern? I do not think anyone will demur to the statement that a club of any standing can cater for intending members, be they quite novices or advanced workers, in a way that is quite impossible to a juvenile society.

Let me take a club that is within easy access of all parts of London, and distanced about twenty minutes' journey from the Commercial Road—the Holborn Camera Club, which is essentially the club for both novices and advanced workers in the art-science. Numbering amongst its members some of the

exhibitors at the Pall Mall Exhibition, the Committee pay especial attention to those who have not even managed to master the rudiments of photography; and to that end periodic lessons of the most elementary character are given, so that one may join innocent of the meaning of the very word development, and yet be led, step by step, by painstaking and patient colleagues, until they attain the rank of expert and artistic photographers. It boasts a fair average of *active* lady members who, to prove they are not ornamental members only, succeeded at the last annual exhibition in carrying off no less than three prizes. Full attention is paid to the social side of photography, and there is always something going forward in the shape of, in the summer, outings, when there is invariably a prize offered for the best picture taken, and in the winter, social evenings, concerts, lantern shows, etc. I have no interest in bringing this well known and popular club before the notice of my brother amateurs except the fact that I have just learnt that it is to be the first London club to exhibit the AMATEUR PHOTOGRAPHER 1891 Prize Slides, which event is fixed for December 14th. A special hall will be engaged for the purpose, and although a small charge will be made for admittance, a limited number of complimentary tickets will be issued to London societies. As on that occasion the demonstration will be by yourself, Sir, it is my earnest wish that such an enthusiastic and representative gathering may assemble that will gratify you for the inconvenience and loss of time occasioned, and while bringing honour to your widely read and popular journal, will reflect credit upon the club that has the enterprise and public spirit to promote what will be one of the events of the season.—Yours, etc., J. R.

* * * *

SOCIETY SUICIDE.

SIR,—When a society allows the secession of some of its best men without any serious effort being made to retain them, it is on its way to the end. It is now well known that the two most prominent exhibitors have retired from the Council of the Photographic Society of Great Britain, and, as members, disgusted with the management of the late exhibition; it is also rumoured that the President, together with some other members, is as dissatisfied as the retiring members, and only awaits the annual meeting to wash his hands of the society he did so much to save from financial ruin. It is significant that he did not attend to deliver the medals—the first time he has been absent for very many years—and that only one of those to whom awards were made attended to receive the distinction personally.

In Mr. H. P. Robinson the society has lost the services of one who has been, I think it may fairly be said, the most prominent figure in photography in this country or any other for the last thirty years, and the most constant exhibitor and upholder of the exhibition; in Mr. Geo. Davison the society loses the hope of the future as well as successful performance in the present. The exhibition is the only thing the society now does of much advantage to the art. There is never a paper read at its meetings that one per cent of photographers care to hear or read; few want the Journal; the new rooms at the top of a tall house in the wilds of Bloomsbury are not a success, for few care to face the interminable "climbing sorrow" of the stairs. Considering all this, let me ask the question, is it likely that the exhibitions of the future can be a success? The two seceding gentlemen have a strong following which will certainly go with them, for they are very popular, and it is well known that whenever they have the management, however well they may hang their own pictures, other exhibitors are fairly treated, be they legitimate or eccentric. Failing the principal outside exhibitors it will fall on the Council to make a show; let us see what chances there would be of an exhibition.

Including the President and Hon. Sec., deducting the two seceders, there are twenty-five members of Council. How many of these supported the last exhibition with their works? Just three, Mr. Gale, Mr. Cobb, and Mr. Hollyer, and I hear that at least two of these are among the disaffected. This shows either indifference or incapacity in the remainder. Suppose the Royal Academy trusted to outsiders to supply their exhibitions, what would become of that institution?

I cannot help thinking, sir, that the vast importance of the art demands something better than we seem likely to get from this society in the future. We want an exhibition in which it shall not be deemed necessary to hang a member's work, however bad, because he is a member, or the first thought to be

space and gate-money. We must take a lesson from Liverpool and Glasgow.

Others will be able to organise a successful exhibition better than I can tell them; all I want to point out is that the *time has come*.

A RETIRING MEMBER.

* * * *

HAND-CAMERA FOR SOUTH INDIA.

SIR,—I have much pleasure in giving your correspondent "Cape Comorin" a few hints on hand-cameras for a hot climate. In the first place, my experience is that cheap apparatus of any kind in a hot climate is a mistake, and this will apply specially to hand-cameras. Dust is a great enemy in hot dry climates, and many parts of southern India are excessively dry. In all magazine cameras dust is likely to be deposited on the plate, from the simple fact that the plate next for exposure is without protection. In some forms, where the plates are packed close together, there is less fear of dust than in others, such as the "Facile" or the "Radial." In many instruments the method of changing the plates and the shaking about required is apt to stir up the dust; to ensure exemption from dust the use of slides is strongly recommended; the danger which exists of getting out of order, with mechanical contrivances for changing plates, is at the same time avoided. In some hand-cameras—"Swinden and Earp's," and the "Eureka," for instance—a roller-blind shutter is employed; the blind is invariably made of india-rubber material, and in a hot climate, damp or dry, the india-rubber surfaces stick together, and the shutter becomes useless. A shutter for hot climates should be entirely of metal, preferably brass, the spring and other parts, if made of steel, must be kept well oiled with proper oil or they will soon rust through.

I should advise your correspondent to inspect the "Hawkeye" camera sold by Messrs. Taylor and Hobson, which will, I think, fulfil his requirements. This camera is made for 5 by 4 in. pictures; it can be extended for focussing, and there is a focussing glass, which may be used if necessary. There is a scale and the usual finders for working without focussing; the lens is by Taylor and Hobson, and has an Iris diaphragm, adjustable from the outside of the camera. The shutter is of metal, and has three different speeds. The slides may be used for plates or cut films and a special form may be had for cut films only; the camera will also take Eastman's roll-holder.—I am, yours, etc.,

November 16th, 1891.

W. L. NOVERRE.

(Col.)

SIR,—I have used Rouch's camera in India, and though an excellent camera for temperate climates it does not stand India. A *sine qua non* for a hand-camera for India is that the shutter arrangement can easily be got at in case (as is probable) it gets out of order. I hope you will not insert letters on this subject unless your correspondent states that he has had personal experience of the camera in question in the tropics, as it would be misleading and a waste of space, and would add to "Cape Comorin's" "dilemma between conflicting opinions and advertisements." I am as anxious for the required information as he is.—Yours truly,

November 12th, 1891.

E. F. BECHER

(Major R.A.)

SIR,—Regarding the communication in your last issue from "Cape Comorin," perhaps you will allow us to say that Mr. John Neuberg, of Bombay, will be only too glad to render any assistance to your correspondent, if he will communicate with him. His personal experience of the climatic influence on hand-cameras and his knowledge of the most suitable makes would be extremely useful to your correspondent.—Yours, etc.,

November 16th, 1891.

F. SCHAEFFER AND CO.

SIR,—In reply to "Cape Comorin's" enquiry for a hand-camera. I have just returned from that country, and have reasons to be more than satisfied with the camera I took with me.

The principal working parts being made of metal, it was not in the least affected by change of climate. One great feature was that the plates required no sheaths or backing. I used a $5\frac{1}{2}$ in. focus lens by Wray. The camera is provided with a focussing screen. This I found a great acquisition for tripod exposures. The changing of plates is simple and effective. It was made by Roberts, of Leytonstone.—Yours, etc., W. T. SHEARD.

Photographic Procedure.

By E. J. WALL,

Author of the "Dictionary of Photography."

SECTION II.—THE LENS.

Doublet.—This term is applied to lenses which have a glass or combination at each end of the lens tube, as shown in fig. 83. Various names have been given to these lenses, or to slight modifications, and as far as possible I include a list of them :

Antiplanetic	Orthoscopic	Rapid doublet
Aplanat	Panorthoscopic	Rapid paragon
Aplanatic	Pantographic	Rapid symmetrical
Autographic	Portable symmetrical	Rectigraphic
Euryscope	cal	True view
Hemispheric	Rapid rectilinear, or	Universal
Orthographic	R.R.	
Orthopanactic		

Effective Aperture.—The effective or working aperture of the lens is that portion which actually comes into use with the various diaphragms, and the size of the working aperture is dependent not only on the size of the diaphragm, but also on the distance of the object, but for comparison of lenses, and in the ordinary course of testing a lens, parallel rays only are considered in estimating the effective aperture.

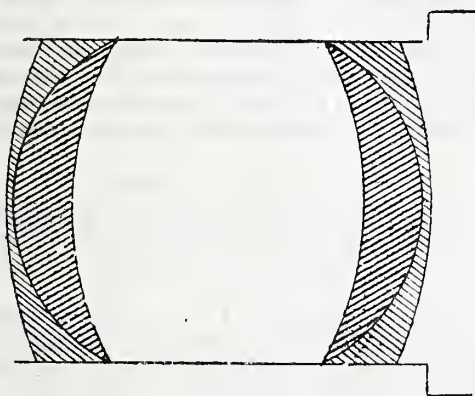


FIG. 83.

According to Dr. Stolze, "with any but parallel rays of light, such as those proceeding from near objects under otherwise equal conditions, (1) with single lenses with diaphragm in front, the effective aperture increases if the distance of a luminous point decreases; (2) with doublets, with diaphragm between the lenses, the effective aperture increases as the distances of a luminous point increases." The following diagrams show very clearly how the working aperture of single and doublet lenses is respectively equal to and greater than the diameter of the diaphragm aperture. In both figures, F is the focus of parallel rays, R; P the lens; and the diameter, cd , in fig. 84, is equal to ab , the diaphragm aperture, but in fig. 85 cd is greater than ab . Directions for finding the correct working aperture have been given under "Diaphragm."

Equivalent Focus, Focal Length or Focus.—One of the very first things that is done by a novice when he buys his apparatus is to set his camera up and screw his lens on to the front, and put his head under the focussing cloth to see what he has got on the ground glass; and he soon discovers that to obtain a clear, well-defined image his lens has to be a certain distance from the ground glass. This distance between the lens and the ground glass for a very distant object, such as the sun or moon, is called the equivalent focus or focal length of the lens, and it is extremely important that every photographer should know

how to find the focal length of his lens, because upon this depends the determination of several factors.

Before deciding, however, on the best method of measuring the focal length it is necessary to know where we are to start measuring from. If we take a single or landscape lens we shall find that there are three or four points which we can measure from. Thus we may measure from the plane of the diaphragm, from the front surface of the lens, or from the centre of the lens, or from the posterior surface of the lens; and each point will give us a different length. Thus in the case of a rectilinear

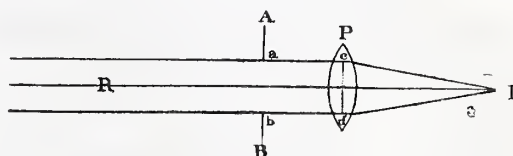


FIG. 84.

lens we can measure from several points: from the front lens, from the plane of the diaphragm, from the back surface of the posterior lens.

It is very usual to see in some opticians' catalogues the term "back focus," and this is the distance between the posterior lens and ground glass, and is, I believe, inserted for the information of professional photographers, to enable them to judge whether the lens can be used on their cameras. The correct point to measure the focal length from is one of the "nodal points" of a lens, but, practically, the following methods may be used with the satisfaction of knowing that the focal length of any lens thus measured is sufficiently accurate for all practical purposes. If a scientifically accurate measurement of the focal length is required, my readers must refer to Leaper's articles on "Photographic Optics," AMATEUR PHOTOGRAPHER, p. 422, vol. xiii.

For practical purposes it is quite sufficient to set the camera up and focus the sun or the clouds, and in the case of single lenses measure the distance between the front surface of the lens and ground glass, and with portrait or doublet lenses the distance between the diaphragm slot and ground glass. This method is not precise, however; more accurate measurements may be made by one of the following plans:—

(1) *Grubb's Method.*—On the ground glass of the camera draw two pencil lines about an inch from the margin at

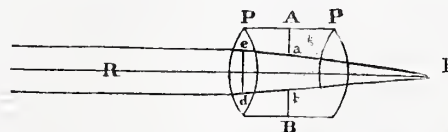


FIG. 85.

each side. Now set up the camera before a window preferably upon some flat surface, such as a table, upon which is spread a sheet of white paper, and focus for some distant scene, more than 150 or 200 yards off, in which there is some distinct feature, such as a church spire or tall chimney. Make the image of this fall upon one of the pencil marks on the focussing screen, and with a pencil draw a line upon the paper along the side of the camera; now bring the image of the chimney or spire upon the other line, when draw another line upon the paper also along the side of the camera; remove the camera, and with a flat rule continue these lines till they cut one another, so as to form an angle, across which draw a line, so as to form a triangle, which line must be exactly the same length as the distance between the two pencil marks on focussing screen. Find the centre of this base accurately, and connect the

junction or apex of the angular lines with the centre of the base. This line will then be the true equivalent focus of the lens.

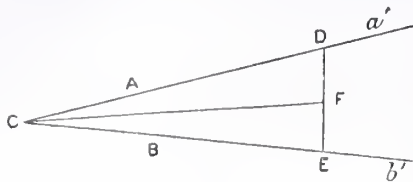


FIG. 86.

The lines Aa', Bb', are those traced on the paper along the sides of the camera, extended till they meet at C. DE is the base, being the exact distance apart of the two pencil marks; F its centre, and CF the true equivalent focus of the lens.

(2) *Method by Focussing a given Object the same Size.*—With long-extension cameras a very common method is to focus on any object till the image is exactly the same size as the object, then measure the distance between the object and ground glass, and divide by four, when the result will be the equivalent focus. A convenient object to use is a foot rule. Example:—On focussing a foot rule, till the image or part of it measures exactly the same, we find the distance between object and ground glass to be $73\frac{1}{2}$ ins. Then $73\frac{1}{2} \div 4 = 18\frac{3}{8}$ ins., the focal length of lens used.

(3) *Schroeder's Method.*—This can only be used by possessors of a telescope. First of all take a piece of cardboard—a mount will do—and punch two holes in it some little distance apart; place this card flat on the ground side of the focussing screen, and with a lead pencil blacken the ground glass through the holes. Now go into a darkened room and set up the card, and place behind it a lamp or candle, erect the camera, and rack the lens in or out till the bright spots of light coming through the holes in the card fall exactly on the black spots on the ground glass, and mark accurately the position of the ground glass on the base-board of the camera, as shown in fig. 87, in which A is the card with the two holes, P the lens, here represented by a single double convex lens, and B the focussing screen, marked by the pencil with the two black dots, on which are focussed the bright spots of light as shown by the dotted lines. A small telescope is now focussed on the moon, and the focus temporarily fixed, the ground glass is removed from the frame, and a negative of a strong contrasted subject is placed in the frame, from which the ground glass has just been removed. A very good negative, if handy, is that of a line drawing. The eye-piece of the telescope is now placed at the same position as the card previously used, i.e., opposite the lens of the camera; a candle or lamp is placed behind the negative, and the camera racked-in till the lines of the negative are seen sharp and clear. Now,

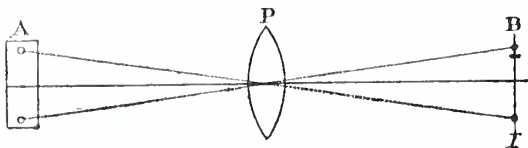


FIG. 87.

as the telescope focus has been fixed for infinity the negative will only appear sharp when it is at the true focus of the lens—this position is then accurately marked, as shown in fig. 88, in which T is the telescope focussed for infinity, P the lens, and II the position of the plane of the negative. Fig. 89 is, as will be at once seen, a combination of the

two previous diagrams, figs. 87 and 88, and the distance between the plane I and plane II is the true equivalent focus of the lens designated in the diagram by F.

(4) *Stolze's Method.*—This, or the following method, No. 5, will be found the most convenient in practice. Dr. Stolze described his method in "Photographische Nachrichten," vol. ii., p. 164, 1890, as follows:—"One first focusses on a very distant object, or so to speak on infinity, and marks this position of the focussing screen on the baseboard of the camera. Then the camera is directed at a very near upright object of known, or easily measurable, size—best on a foot rule—so that the image falls on the focussing screen; this is sharply focussed, and this position of the screen again marked on the baseboard; a negative is taken of the object in this position, and after development the size of the image

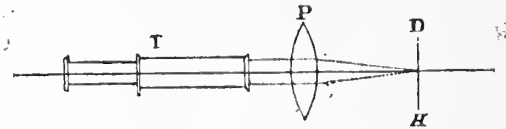


FIG. 88.

of the photographed object is carefully measured, and one thus determines how much smaller the former is than the latter. If one multiplies the difference between the two foci with this number, the result will be the focal length." Possibly an example will make this a little clearer: We have focussed on a very distant object, and marked the baseboard, and have also focussed on a foot rule and taken a negative, and find that the image of the foot rule measures 10 in., the distance between the two marks on the baseboard is 19 in., then,

$$F = 19 \times \frac{10}{19} = 22.8 \text{ in.}$$

The size of the image should be as large as possible; that is to say, the amount of reduction should be as little as possible, because the greater the reduction the less accurate the result.

(5) *Debenham's Method.*—I do not know whether this method is original with Mr. W. E. Debenham, but it is extremely convenient when working with somewhat short focus cameras and long focus lenses. The camera is placed upon a table, when convenient, or if such is not handy, on

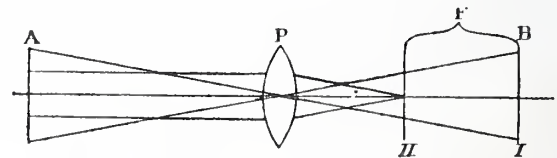


FIG. 89.

the ordinary tripod. We support on a wall, shelf, or convenient place a foot rule which is plainly marked in inches. On the ground glass of the camera, a space of two inches is accurately marked, as near the centre as possible: it is merely necessary to mark off the two inches, not to divide it out into parts. The camera is now moved backwards or forwards till the image of the foot rule of twelve inches just falls on the two-inch space we have marked out. The coincidence of the image on the lines should be examined with an eye-piece or compound focuser, to see that they do coincide, then the distance between the foot rule and the focussing should be carefully measured, and this distance jotted down, as from this we obtain the focal length of the lens. This number is multiplied by the figure which represents the proportion of the image to the original object, and the result is then divided by the square of the proportional number plus one. Taking an example, we find that

the distance between the foot rule and its image equals 63 inches.

$$\therefore 63 \times 6 = 378;$$

$$378 \div 49 = 7\frac{1}{2} \text{ in., the required focal length.}$$

It must not be thought that the above proportion between the object and its image is essential; any convenient proportion may be taken, such as 4, 5, 8, etc., but the rule holds good with all.

Composition, and Light and Shade.

Selected and arranged for the use of Photographers, from "Burnet's Essays," with Introduction and Notes.

By H. P. ROBINSON.

CHAPTER XIX.

I HAVE noticed in another place, that when the darks of the group are brought off the light side of the background, greater firmness is obtained, and more vivacity, which latter is the peculiar character of daylight. Cuyp, by placing his figures in such a position as to throw long shadows across the picture, gives a great appearance of sunshine (fig. 44). If the strong darks are placed on the delicate half light, instead of on the strong light, they have greater force, as the ground has a more retiring quality: the strong colours have also a more natural appearance, as in the event of colours being opposed to the glare of light, their brilliancy is destroyed.

A few small touches of light are sufficient to convey the light into the dark side of the picture, and to take off the heaviness of the shadows. In compositions, when the background is very dark, we find shining substances, such as mirrors, metal, armour, etc., employed, as they take on a

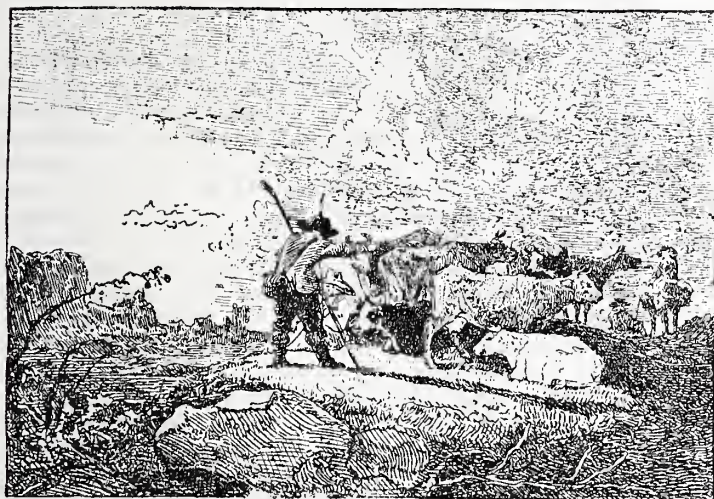


FIG. 44.—CUYP.

sharp light, and thereby connect the shade with the light without destroying its breadth; on the contrary, they aid to its depth.

When the light part of the group is placed upon the light side of the ground, provided there can be sufficient firmness given, we must of necessity have a greater breadth of effect. Vandyck has in this picture (fig. 45) kept the principal light upon the sleeve of the jacket (which makes the most prominent point), and has diffused it upon the sky. The cool tints of the shadows of the jacket, and part of a blue ribbon detach it from the under part of the sky,

which is warm. The warm colouring of the boy, and the cloak which he carries, and the king's breeches being of a dull red, assist the arrangement. The warm colours are carried into the shadow side of the picture by the dun



FIG. 45.—VANDYCK.

colour of the horse, the stump of the tree, and the saddle cloth. The cool blue of the sky mixes with the foliage of the trees, and prevents it from interfering with the hat, which has greater point in consequence, and balances the shadow side of the picture, besides drawing the attention of the spectator to the head. The warm colour of the flesh necessarily detaches itself from the cool ground; but in such situations we often find Rubens and all his pupils bring strong blue in contact with the head, which gives it a great value and a luminous effect. We thus perceive a light figure may be strongly relieved even by a light background, provided the colours are opposed to each other; thereby preserving the greatest breadth of light.

Fig. 46. We have in this subject the dark of the group brought off the light part of the ground with great firmness, and a very large portion of the outline sharp and cutting, which, though it may give the strong feature of natural objects, has a harsh appearance at first sight. Whether it be that in real objects their actual existence enables them to harmonize with the harshest effects of light and shade, or that the real separation of one part from another admits of a strength of colour incompatible with a flat surface, such as an outline on canvas, is worthy of the student's examination; as in nature he will often find the most distant parts of an object more sharp and cutting than the nearest outlines, and yet keep their situation. To represent this on canvas requires the most scientific management; as a work may have the strength and freshness of nature, without being a just representation, when the situation of one part with regard to another is taken into the account.

Potter in this picture (in which the objects are of the natural size) has made use of the simplest and firmest principles, as regards light and shade. We have the group strongly defined by part of it coming light off a dark ground, and dark off a light one; we have the composition

taking a decided form in one direction, and the light running across it in another; we have therefore the strong look of nature, which consists of simplicity, decision, and strength.

In the early masters we have these qualities often in a high degree; and had they less of an inlaid flat appearance, would be more valuable than the more harmonious



46.—P. POTTER.

softenings of modern light and shade; but we must never forget that objects in nature are more or less round, that they are delicate as well as forcible, and that the harshest colours are under the influence of light and shade.

Fig. 47. The light part of the group is here brought in contact with the light part of the background, and the shadow assisted in its strength by the local colour of the objects placed within it. The yellow cow, which makes the light, is surrounded by others of a dull red and brown, which are relieved by a still darker ground. This gives a great breadth to the group. The cool colour of the upper part of the sky is carried across the picture by the grass and leaves being of a cool green; the dark sharp marking



FIG. 47.—CUYP.

of the horns, eyes, etc., gives a lightness and finish to the whole, as it allows the broad lights and shadows to have more union. In Cuyp the local colour of his objects, whether hot or cold, is kept up undisturbed by the light and shade; this gives great breadth and the distinctness of nature in open daylight.

The illustrations to this chapter afford an opportunity for a few words on the position of the horizon in a picture. It is an

undoubted fact that painters have knowingly taken great liberties with the truth of nature in this matter. In nature the horizon is always level with the eye, so that to see the sky line so low as it appears in figs. 44, 45, and 46, the head of the painter must have been nearly on the ground, or there must have been a dip in the ground which enabled him to have his eye nearly as low as the feet of the figures. In the case of the portrait, another difficulty would arise. The perspective of the figure would be so altered as to appear, if as faithfully drawn as it would be by photography very unnatural. In fact, the figure is represented under one condition of perspective and the background under another. This will not do in photography. However the painters may, by using false perspective, prove, or endeavour to prove, that "What's impossible *can* be," it will not do for the truthful art whose perspective cannot go wrong, whatever might be said to the contrary, to represent impossibilities, yet this is too often done by photographers who employ painted backgrounds, in which there is no agreement between the lines of reality and the painted scene. This is a case in which the great masters may be appealed to in vain. The most famous portrait painters departed from nature in this respect. Reynolds, Gainsborough, Lawrence, all placed the horizon unnaturally low. Here photography must differ from a practice which can never be upheld with regard to truth, and which, indeed, painters have now learnt to avoid, chiefly, I think, from the absurdity of it, as well as the use of the column and curtain, as shown in the work of ignorant photographers.

Impressionist Sketches.

THE PHOTOGRAPHIC SOCIETY OF GREAT BRITAIN.

THE meetings of the Photographic Society of Great Britain are generally very solemn functions. The first meeting of the present session was not only solemn but sad. The intense decorum represented by "Papa, potatoes, prunes, and prisms" was more marked than usual, and the faces of the little knot of members who assembled, firstly, to witness the presentation of medals, and secondly, to hear a paper by Mr. Leon Warnerke, suggested that they had just heard of a misfortune or were expecting one.

This was the more singular because the meeting was not held in the "attic"—to use Mr. H. P. Robinson's term—which is now the home of the Society, but in the luxurious gallery at Pall Mall. Clearly there was somewhere a little rift within the lute. The President, who is usually in great form on the medal night, was away. Captain Abney, who presided in his stead, looked worried, and his undertones were even more undecided than is their wont. Mr. Bird, the Treasurer, was industriously at work, and scarcely raised his head from his papers during the whole time. Captain Mantell, the Honorary Secretary, was pale and determined, and Mr. Laurence, the brand new Assistant Secretary, was crushed and dejected, and whispered to his shirt front the few formal notices he had to give.

Why the meeting, instead of being gay and debonair, was immersed in sepulchral gloom, I do not pretend to understand, seeing that the Society was supposed to be entering upon a brighter phase of its existence, with the long-sighed-for article, a "home of its own," in its possession, to say nothing of being "under entirely new management." Doubtless there was a reason, but of that reason everybody was profoundly ignorant. I have heard that it is etiquette for the members not to know, or to pretend not to know, what goes on in the council chamber, and, therefore, not for worlds would I infringe any of the rules, regulations, sections, clauses, bye-laws, sub bye-laws, written and unwritten, which have been framed for the purpose of securing and maintaining peace and harmony in the Photographic Society of Great Britain. I simply chronicle the fact, and cannot explain it.

But to the business of the meeting. Mr. Laurence having, as I have already mentioned, addressed a few words to himself—I think they related to some presentations to the society, but am not sure, it was so very difficult to hear—Mr. Addenbrooke, in the tersest of language, announced the result of the communications to the various photographic societies on the subject of the affiliation scheme. The figures seem to show that a very languid interest is taken in the matter. Out of one hundred and ninety-two associations which had been written to, only ten had accepted. Five had the matter under consideration, and the rest were silent. This does not indicate much enthusiasm on the part of the outside world, while it must be confessed that the society itself is equally indifferent. A resolution approving the scheme was proposed, seconded, and put to the meeting, but only one member, so far as I could see, had the energy to hold up his hand, and even he did it in a shamefaced, half-hearted manner. Fortunately, there were no hands against, and Captain Abney was able to declare the resolution carried. It probably does not matter very much, for it is doubtful whether anything will come of the scheme.

Then came the presentation of the medals. It is a moot point whether the giving or the receiving of a medal is the more embarrassing. Mr. Glaisher is one of the few who revel in well-rounded adulatory periods. He delivers himself with a zest and emphasis which make the recipient, if he be at all modest, blush all over at the discovery of his hitherto unsuspected worth. At the same time it is rather trying, and when the last half-dozen sentences are pronounced, with your hand warmly clasped, and you have an uncomfortable feeling you are looking exceedingly awkward, you begin to wish that the giving of medals might be "taken as read." Perhaps some dread of this kind was in the minds of the medal-winners, for only one turned up to receive in person his award. There was, however, nothing to fear. Captain Abney was commendably brief, and did the presentation gently. For this relief much thanks.

Now presented himself Mr. Warnerke, charged with a paper brimming over with statistics relating to the progress of photographic education on the Continent. Mr. Warnerke mercifully forebore inflicting his statistics upon the audience, and, if such an opinion may be breathed, there were other portions of the paper which, if omitted, would not have been missed. It was not that the information was not valuable, but, unfortunately, the position of the table forced Mr. Warnerke to turn his back upon the audience, the dim light (the paper was illustrated by lantern slides) compelled him to bury his head in his MS., while his valiant struggles with the difficulties of English pronunciation were more curious than intelligible. But the meeting was patient—indeed, there is always a spirit of lamb-like docility among the members of the Photographic Society which is very touching—and certainly the pictures on the screen, as showing the admirable and elaborate system of photographic training on the Continent, were very interesting.

One could not help contrasting the thoroughness of the establishments at Berlin under Dr. Vogel, at Vienna under Dr. Eder, and at Brussels, as compared with—well, we have in England nothing which is at all comparable. We have an apology for a photographic training school in the City of London Guilds and Institute, which for some inscrutable reason has been placed fairly out of reach at South Kensington, and there is a course of lectures at the Polytechnic. If there is any other photographic educational establishment in London I shall be glad to hear of it. At Berlin, at Vienna, at Brussels, the only three cities alluded to by Mr. Warnerke, the buildings might

almost be described as palatial. Every department of photography from the coating of plates to photo-lithography and photo-engraving, and not forgetting spectroscopic work, is represented, and on a scale of completeness which excites envy while it commands admiration. France, Russia, and Italy have also their photographic schools, with which at some future time Mr. Warnerke will probably deal, while Ghent boasts of having the first industrial School of Photography established in Europe.

There was no discussion after the paper, for the staying powers of the society are not remarkable, and when it is possible to adjourn anything it does so with alacrity. Another month therefore will elapse before the photographic world will know what the members think of the way in which England has been distanced by the Continent. Meanwhile time is given to consider in what manner London, through the Photographic Society of Great Britain—a comprehensive title indeed, but one sadly illusory—can hope to emulate Berlin, Vienna, and Brussels. Unfortunately, ever since the days of its foundation the Photographic Society has been too much occupied with its own family quarrels to pay much attention to anything else. Like the Bourbons, it learns nothing and forgets nothing. Forty years it has wandered in the wilderness, and is still wrangling.

DARK SLIDE.



Quarterly Examinations in Photography.

Question 20.—Is there any difference to be observed in result when photographing a landscape, or a copy of the same in pigments?

ANSWER.—There is a considerable difference in the result, which will be more or less apparent according to the nature of the landscape, the perfection of the copy, the kind of pigments used, and the method of photographing the copy.

In photographing a landscape the most minute and delicate details of form are faithfully reproduced, so that on examination with a magnifying glass not only are no imperfections discernible, but details invisible to the naked eye are distinctly revealed.

In a most carefully executed copy of the same landscape, the artist is unable to depict the same amount of detail, and would spoil the effect of his picture if he attempted anything of the kind.

A photograph of the copy would necessarily include all its imperfections.

Pigments are not pure colours, and cannot be made to accurately represent the natural colours of a landscape. In order to produce effects of light and shade, yellow, red, blue, brown, and other mixtures are employed. In photographing the copy, the yellow and red intended to represent lights will more resemble shadows, the impure blues will appear as grey instead of white, and the greens and browns will show much more contrast than they do in the photograph of a landscape.

MONDS.

[The point of the question is simply this: In photographing a landscape we use pure spectrum colours, or mixtures of spectrum colours, to form the image, whereas in copying an oil or water-colour we use the light reflected from the interior and exterior of the particles of pigments, and the effect is totally different on the photographic plate.]

THE EXAMINERS.]

Question 21.—Explain the principle of stereoscopic photography.

ANSWER.—The first article that alluded directly to the stereoscope appeared in Mayo's "Human Physiology," in 1833. It says that "a solid object placed so as to be seen with both eyes projects a different perspective figure on each retina." Now if these different images were copied accurately on paper and presented to each eye so as to fall on corresponding parts of the retina, the original solid object will be apparently reproduced in such a manner that no effort of the imagination will make it appear as a representation on a plane surface.

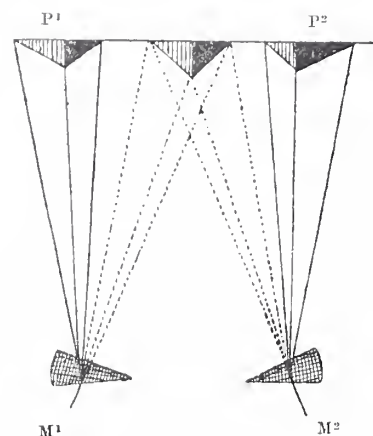
The principles of the stereoscope are copied from nature; and Mayo's observations in which he speaks of the images projected on to the retina being different is easily proved. A simple method is to take a cone, and placing it before the eyes, to examine the different appearances it presents when looked at with each eye individually. It will be found that the right eye sees most of the right-hand side, and the left eye most of the left-hand side each eye thus

receiving a dissimilar impression. It is this dissimilarity which produces to our senses an appearance of solidity. With one eye we can see its size and shape, but with two eyes combined we become possessed of a sense of the third dimension, that occupied by the body in space.

If we fix our eyes upon a point, we are conscious of objects beyond and in front of this point appearing double. This is caused by the convergence of the optic axes to the point looked at, and the rays proceeding from the distant or nearer one enter the eyes at a different angle, and two indistinct images of each distant or nearer object, other than the one looked at are seen. Indistinct they are, for if the eyes are focussed upon them they at once appear single. The nearer an object is, the more relieved or solid it appears to be. Very distant objects appear more or less on a flat plane, because the axes of the eyes in looking at them are nearly parallel, and the two images which are received on the retina are practically the same.

Two identical images, such as a distant view, can never produce the feeling of solidity, which depends altogether on the dissimilarity of the two retinal impressions. Many suppose that a pair of prints from the same negative will give a stereoscopic effect; but, as will be seen, this is utterly impossible, as the two are identical. The optical principles of the stereoscope next demand our attention.

If a half lens or prism be taken, and we look through it at an object, it appears to be considerably more to one side than we know it really is. The whole principle of the stereoscope rests on this.



The diagram will make it clearer.

P¹ P² are the pictures, M¹ M² are the lenses. The rays of light enter the lenses and are deflected onwards. The eyes follow the directions of the rays, and the pictures are seen as if they actually emanated from the centre. The central division is to prevent P¹ from being seen by M². The two pictures are thus super-imposed on each other, and appear as one. Whole lenses can be used in the construction of the instrument if they are placed so that any portion of the lens between the centre and the inner edge will come under the eye. THEO.

THEO.—(21) We cut out the last portion of your answer as unnecessary. (20) See published answer.

PEN.—(20) See published answer. (21) Not quite explicit enough.

BRENT.—(20) You rather missed the point.

MOYDS.—(20) We supplement your answer.

AUGESCO.—(20) You missed the point of this.

FLARE SPOT.—(21) When illustrating your answers by diagrams, you should use any which have appeared in back numbers of the AMATEUR PHOTOGRAPHER and give us date and page. Please note for future.

ENALOF.—(20) Your thoughts on this are pretty close to the truth.

CARFAX.—Place your large negative in a hole of your dark-room window, and use your own camera with a carrier in dark slide.

THE PARD.—(20) You miss the point.

QUESTIONS.

(For Questions 28, 29, and 30—latest day for answers, Nov. 30—see last week's issue.)

31.—Forward two lantern slides, subjects voluntary.

32.—Explain theoretically the objections to the use of a shutter in front of the lens.

33.—What is the action of excess of pyro, bromide, or ammonia in a developer?

Latest Day for Answers, December 7th.

RULES.

1. Answers must be received on the date stated each week in the AMATEUR PHOTOGRAPHER.

2. All answers must be preceded by the question, and should be written on one side of the paper only, and each answer must be on a separate sheet or sheets.

3. A *nom de plume* may be used, and must follow every answer, and be affixed to every specimen of practical work.

4. Answers are not limited in length, but preference will be given to concise answers without unnecessary amplification.

5. Those desirous of competing must apply to have their names entered. As these examinations are intended to encourage the study of the theory and practice of photography, authorities upon photographic matters and contributors to the photographic journals will not be allowed to compete.

NOTE.—No information of any kind will be given to competitors, and nothing but the answers must be included for the examiners. All other communications must be addressed to the Editor.

Marks will be given for all answers, and, when possible, the best three answers will be published. The answer will not be published till the week following receipt of the same, and the examiners criticise each answer sent in, and when no satisfactory answer is received, will supply one. Three prizes will be awarded at the end of each quarter. (Full syllabus on application.)

All communications to be addressed to: "EXAMINATION DEPARTMENT," AMATEUR PHOTOGRAPHER, 1, CREED LANE, LONDON, E.C.

"AMATEUR PHOTOGRAPHER" 1891 PRIZE SLIDES.

Nov. 20.—Louth	Jan. 26.—Newcastle - on - Tyne (Tyneside C. C.)
" 21.—Fakenham	" 28.—Huddersfield
" 23.—Buxton	Feb. 1.—Halifax
" 25.—Ashton-under-Lyne	" 2.—Keighley
" 26.—Barrow-in-Furness	" 3.—Wigan
" 27.—Tunbridge Wells	" 4.—Cleveland C. C.
" 28.—Mayfield, Sussex	" 8.—Crewe
" 30.—Croydon	" 9.—Wolverhampton
Dec. 1.—Sutton	" 10.—Birkenhead
" 2.—Normandy, Guildford	" 11.—Chester
" 4.—Maidstone	" 16.—East Southsea
" 8.—Lewes	" 17.—Southsea
" 9.—Putney	" 21.—Rossendale
" 11.—Richmond	" 23.—Dukinfield
" 14.—Holborn C. C.	" 24.—Stockport
" 15.—Faversham	" 25.—Oldham
" 16.—Enfield	" 26.—Lancaster
" 17.—Ealing	" 29.—York
" 18.—Lewisham	Mar. 2.—Shrewsbury
" 19.—Blackheath	" 8.—Glasgow
" 21.—Hastings	" 11.—Dublin
" 22.—Brighton	" 14.—Cork
Jan. 2.—Bootham (York)	" 17.—Llandaff
" 4.—York	" 18.—Cardiff
" 5.—Darlington	" 21.—Kington (Hereford)
" 6.—Sunderland	" 22.—Hereford
" 7.—Stockton	" 23.—Birmingham
" 8.—Whitby	" 24.—Walsall
" 9.—Haltwhistle	" 25.—Gloucester
" 11.—Newcastle-on-Tyne	" 26.—Bath
" 12.—Leith	" 29.—Bedford
" 13.—Edinburgh (afternoon show, private)	" 30.—Leicester
" 13.—Edinburgh Phot. Soc.	April 4.—Peterborough
" 14.—Brechin	" 5.—King's Lynn
" 16.—Rodley, near Leeds	" 7.—Hull
" 18.—Leeds	" 9.—Yarmouth
" 20.—Sheffield C. C.	" 12.—Uttometer
" 21.—Dewsbury	" 19.—Oxford
" 22.—Holmfirth	

Correction.—In our last issue, on p. 357, line 31, read, "Iamplight," instead of *limelight*, in "A Paper for Beginners."

Our Sale and Exchange Columns.—Mr. Geo. Randall writes:—"Be good enough to withdraw my advertisement from the 'Wanted' list. I have been inundated with applications; at least 150 received."

A Monster Camera.—Messrs. Platt and Witte, of Birkbeck Works, Birkbeck Road, Dalston, advise us that they are manufacturing a large camera of the best type to take plates 28 in. by 28 in.; the camera will extend 8 ft. 6 in. The firm have kindly promised to let us see this large camera when complete; we shall therefore hope to give some further particulars at a not very distant date.

Address Wanted.—Mr. C. C. Vevers writes us: "I should esteem it a favour if, in your next issue, you would request the Mr. Jas. H. Clarke who has sent me stamps value 3s. 3d. for lantern masks, flash lamp, etc., to favour me with his full address, in order that his order may be despatched without further delay, as '62, High Street' is somewhat vague and the postmark quite undecipherable."

Old Bits of Normandy.—Last week we briefly referred to pictures taken by the Rev. Precentor Mann, of Bristol Cathedral, in August, 1890, with an "Optimus" rapid rectilinear and wide angle lenses. They were printed by the platinotype process (hot bath), and exhibited and medalled at the Crystal Palace Photographic Exhibition last spring. The *Building News* says:—"Rouen and Caen have suffered much from modern alterations, and it is now difficult to find in them (and especially in the latter) two or three old houses so grouped together as to make a picture. Their fine churches, however, are well preserved. In Lisieux and Honfleur, whose commerce has not made such advances, the antique appearance of the Middle Age Domestic architecture has been less strongly disturbed. No. 1 (Rue des Matelas) was taken in one of the oldest quarters of Rouen, not generally visited by the tourist, and close to the church of St. Vivien, whose spire appears in the picture. No. 2 represents a street in Honfleur, full of the quaint old timber structures which are still plentiful in that once thriving seaport—*e.g.*, in the Rue Gambetta and Rue de Puits. No. 3 shows some old buildings in Lisieux, situated close to the cathedral, at the junction of the Rue du Paradis with the Rue Grande. This view was taken on a dull day with a very rapid plate; exposure about half a second. No. 4 is a corner bit in the oldest quarter in Caen, just behind the church of St. Pierre, and near the castle. There is now very little of the kind to be found anywhere in this town."

Apparatus.

THE "AUTOCRAT" LANTERN TRANSPARENCY PRINTING FRAME.

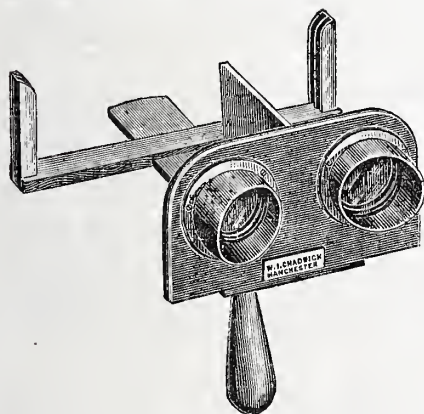
MR. G. S. MARTIN, of Bream's Buildings, Chancery Lane, E.C., has from time to time introduced many novelties. The one before us is likely to serve a very useful purpose. A lantern-slide printing frame in these days is a necessity in every amateur photographer's kit. The one under consideration has been designed by Mr. W. Farrington, and enables the operator to make slides by contact from negatives varying in size from whole-plate to $2\frac{1}{2}$ by $3\frac{1}{4}$. In use, the backboard is removed to adjust the negative under the mask, the lantern-slide plate is dropped into the cell, the backboard is held in close contact by a spring, and the exposure made. These are sold at 2s. 6d. each, postage 3d.

THE ORDERLY FOLIO.

Messrs. E. R. Brown and Co., 5, Kingsland Road, Birkenhead, have sent us one of their useful folios. They are specially made to hold photographs, are very strong, and will fill a useful place in storing either negatives or prints. They are made in four sizes, to hold twenty-five mounts, 3s., or to hold fifty, 3s. 6d. The sizes are 10 by 8, 12 by 10, and 14 by 11 $\frac{1}{2}$. Another special article is the "Cabinet Orderly," with three divisions, which are sold at 3s. 3d.

STEREOSCOPES.

Mr. W. I. Chadwick, 2, St. Mary's Street, Manchester, has sent us one of his useful stereoscopes which he calls "Chadwick's



Lenticular;" it is a well-made instrument, and sold with achromatic lenses of 5 inch focus at 17s. 6d. There is no doubt that this is one of the finest stereoscopes in the market. We have just had a look at Mr. Chadwick's "Stereoscopic Manual," and should strongly advise all those who are going in for stereoscopic work to procure a copy, 1s. 2d., and study it carefully.

A SCIENTIFIC TOY: THE TACHYSCOPE.

The Blackfriars Photographic and Sensitising Company, 1, Surrey Row, Blackfriars Road, are to the front with a really scientific novelty for Christmas. The Zoetrope has been known for years, but the Tachyscope is far in advance of the older machine. A circular box with small slits in the edge is made to revolve, and a strip of cardboard upon which are the actual prints from negatives exposed upon animals, birds, etc., taken by Herr Anschütz from the life; in the Tachyscope these have the most real and life-like effect, and are of course faithful copies of the wonderful instantaneous photographs of Anschütz. These marvellous toys are within the reach of all, being sold for 7s. 6d., which price includes stand, box, and ten examples. Nothing could give more amusement to children, and although we must acknowledge to being "no longer young" we got an immense deal of pleasure out of the Tachyscope.

LANTERNS.

The same firm are prepared for the season with some special optical lanterns of good quality. The "Blackfriars Improved Biunial" is a well-built lantern, which is sold complete for £8 8s. The "Blackfriars Improved Lantern," single, is a very cheap instrument, with three-wick lamp £2, four-wick £2 5s. They have a very handsome and well-made triple lantern which should be seen. The firm will arrange to give high-class entertainments to any magnitude, the cheapest being the loan of lantern, sixty slides, and the services of an experienced operator for £1.

PORTABLE DEVELOPING SINK.

Mr. Blakie, the firm's manager, has designed a portable developing sink for a gentleman who is going up the Nile, which really calls for a few words. We had the advantage of inspecting it this week. It is intended for a cabin in a yacht, and measures over all 36 ins. high by 18 ins. square. The top has in it a lead-lined sink, over which two shelves fall when opened; they, of course, make a useful place for trays, etc. A moveable back, 35 ins. by 18 ins., is affixed with iron straps and thumb screws, and upon this are two more folding shelves, and through it projects a screw-down tap with rose. This is fitted on the other side with coupling for supply from a portable cistern, which is hung up at any convenient height. There is also a coupling for the waste pipe. The bottom of the stand is racked for the developing trays, and on either side another shelf, one for alum and the other for hypo. The cupboard under the developing sink is made to exactly take the water cistern. When travelling, the developing trays and a stock of plates are packed in this cistern. The present stock will consist of six dozen whole, twelve dozen half, and twelve dozen quarter Wratten and Wainwright's plates, each dozen packed in a tin case covered with waterproof material. The owner will use the concentrated pyro and soda developer, made up specially for him. The whole—sink, back, cistern, and plates—is packed into a case measuring, outside measurement, 38 by 20 by 21 ins. The work has been carried out, under Mr. Blakie's instructions, by Messrs. Davenport and Co., Parkhouse Street, Camberwell.

SPECIMEN PRINTS.

The Blackfriars Sensitising Company are doing a large business, and we understand they are now supplying dealers, chemists, and others with beautifully-framed specimen prints on their silver albumenised and Celerotype paper. Mr. Blakie is pushing and enterprising, and indoors Mr. Scott keeps things going and prides himself upon prompt despatch of goods and expedition in all things.

Notes from the Edinburgh Centre.

(BY OUR DISTRICT EDITOR.)

MR. H. J. BLANC, the President of the Edinburgh Photographic Society, was the architect for a large bazaar which was held in the Waverley Market, Edinburgh, last week, in aid of the Widows and Orphans' Fund of the Edinburgh City Police, and of the Scottish Society for the Prevention of Cruelty to Children. Mr. Blanc got great credit—and deservedly too—for his work. The market was got up to represent a village, and the artistic taste with which he grouped representations of historic buildings together was really admirable.

At the same bazaar, Mr. Alexander Ayton, of Bruntsfield Place, Edinburgh, was the photographer, as he was at the great masonic bazaar which was held in the same place last year. Mr. Ayton was not very well housed, being in a dingy place under a gallery, but he worked by electric light, and the results he obtained were first-class. Two lamps of 3,000 candle-power each were employed, with a screen of *papier minérale* to diffuse the light. What a glorious opportunity the bazaar would have afforded of showing off lantern views, and I have no doubt that, had it been thought of sooner, you would have been delighted to have lent the committee a set of views for exhibition in aid of so philanthropic an object.

Polytechnic Phot. Soc.—This society has now been formed, and the first meeting will be held to-day (Friday) at 309, Regent Street, W. The Hon. Secretary, Mr. Fred. R. Tissington, 10, Wells Street, will be glad to hear from anyone who may wish to join the society.

Croydon Art Society.—In connection with the annual exhibition and soirée to be held on 9th December the committee offer a valuable prize for competition between members, for the most artistic photograph. Prints should be delivered by 2nd December. Mr. Reginald Ryley (Hon. Sec., of Chichester Road) will gladly give further particulars on application. The judges are Mr. Charles Hussey and the President of the Croydon Camera Club.

Tyneside Camera Club.—The usual meeting was held on the 10th inst., the President (Mr. McKie) in the chair. Owing to the absence of the member who should have given the paper for the evening, a discussion was opened by the President on various photographic work relating to backing and dipping plates to make them colour-sensitive; a very profitable evening was spent.

Societies' Meetings.

Bedford and District.—The lantern exhibition held on the 10th inst. was very successful, the club-room being crowded to excess with members and their friends. The subject, "Westminster Abbey," was most ably treated by the Rev. H. V. Macdonna, M.A., of the Club Council, who read a most interesting and instructive paper. A large number of slides were shown upon the screen by means of the oxy-hydrogen lantern, which was perfectly manipulated by Messrs. Kirby and Perrott Smith. At the end of the lecture a few slides by Mr. Hill and other members of the club were exhibited, some of them showing good work.

Belfast (Y.M.C.A.)—On the 9th inst. Mr. Smith gave a demonstration explaining the method of toning prints on bromide papers, and passed one through a bath made up as follows:—Ferryanide of potassium, 9 gr.; uranium nitrate, 8 gr.; glacial acetic acid, 5 drms.; water, 16 oz.; producing a very satisfactory tone, which could be varied at the will of the operator. He concluded by passing through the lantern upwards of a hundred slides, made from film negatives, at same time giving a description of the various pictures and places depicted on the screen.

Birkenhead.—The annual meeting of the association was held on the 13th November, when the following gentlemen were elected officers for the ensuing year: President, Mr. G. A. Carruthers; Vice-President, Dr. W. H. Hunt; Council, Messrs. Paul Lange, H. F. Stainstreet, G. Latimer, C. B. Reader, G. E. Thompson, H. B. Millar, W. T. Briggs, A. F. Edwards; Lanternist, Mr. W. A. Norrish; Librarian, Mr. J. A. Forrest; Auditors, Messrs. A. Bradbury and H. S. Nicklin; Hon. Treasurer, Mr. W. A. Brown; Hon. Secretary, Mr. F. Hopc Jones, Prenton, Birkenhead. The Secretary's and Treasurer's reports having been submitted to the meeting, the President, Mr. G. E. Thompson, gave a most interesting and instructive "Demonstration of Finishing of Transparencies." An exhibition of slides by various members terminating the proceedings.

Birmingham.—A meeting was held on the 11th inst., Mr. W. J. Harrison, F.G.S., in the chair. Mr. Jones gave a lecture on "A Trip to Holland, Belgium, and the field of Waterloo," illustrating same with 130 slides from negatives taken by himself. Afterwards a number of the members' slides were shown. There was a good attendance notwithstanding the inclement weather. The Society's lantern was well worked by Mr. Pettitt.

Blackburn.—The members of the Blackburn and District Photographic Society had a very pleasant entertainment on Thursday, the 12th inst. Upwards of 200 lantern slides were exhibited, 160 of them being the AMATEUR PHOTOGRAPHER 1891 Prize Slides, the remainder chiefly local views and places of interest, taken by members of the society. A large number of the slides were of surprising beauty, and elicited the most hearty applause. Major Baron, who presided, said that during the summer they had had excursions to Fleetwood, Poulton, Ribchester, Hurst Green, Bolton Abbey, Houghton Tower, Bolton-by-Bolland, Morton Hall, Whalley Abbey, Lancaster, Clitheroe, and Turton Tower. He expected that ere long the society would be quartered in the Technical School. During the evening songs were rendered. Mr. Timperley manipulated the lantern.

Blackheath.—The inaugural meeting of this new Society was held on the 16th inst.; between thirty and forty members were present. Mr. J. T. Field (a Vice-President) occupied the chair, and having explained the object of the Society dwelt on the exceptionally good start the club had made, having already enrolled between sixty and seventy members, with W. H. M. Christie, Esq., M.A. F.R.S., F.R.A.S. (Astronomer-Royal), as President, and a council consisting of many well-known men. He urged on the members the necessity of individual work, and the necessity of bringing before the club their work for criticism, by which the greatest advancement was made. Some excellent slides, including many amusing snap-shots of local interest, by Messrs. Dashwood, Pope, Chaffey, Farrington, Young, F. Butcher, and J. T. Field (whose flowers and snow scenes taken on isochromatic plates were much admired), were thrown on the screen, and shown to great advantage by the manipulation of the biennial limelight lantern by the Rev. W. P. MacDonald, assisted by the curator (Mr. Wm. Farrington). Other members exhibited prints, and a successful evening was brought to a close by the announcement by the Hon. Secretary (Mr. T. B. Earle), that the next meeting would be held on Tuesday the 24th inst., when Mr. A. R. Dresser would give a paper and demonstration on hand-cameras.

Brighton.—The third annual lantern-slide competition was held at Brighton on the 10th inst., when fourteen sets were entered. These had been judged by Mr. H. S. Starnes, of Bexley, and his awards were as follows:—In Class 2, for set of six slides, any subject: Silver medal, Mr. W. A. Ford; bronze, Mr. A. H. Webbing; extra bronze, Mr. Percy Morris; certificate, Mr. J. Williamson. In Class 3, for the best sets of twelve slides, illustrative of borough of Brighton: Silver, Mr. A. H. Webbing; bronze and certificate withheld. Afterwards some fine flower studies and miscellaneous slides

were shown by Messrs. A. H. C. Corder and H. Fowler. The slides entered were, as a whole, of high quality, and a very enjoyable evening was spent.

Camera Club.—On Monday, Nov. 9th, Mr. Lyonel Clark gave the second lecture in the course of elementary lessons to members. The subject was "Lenses." On Thursday, Nov. 12th, Mr. E. J. Humphery read a paper on "Photography by Artificial Light." Captain Abney occupied the chair. There was a very large attendance of members and visitors, about 120 being present. Mr. Humphery described and gave an excellent demonstration of his new methods of applying to photographic purposes the light of magnesium burnt in oxygen. The demonstration was received with much enthusiasm. The apparatus for taking portraits consists of a glass globe charged with oxygen in which the magnesium wire is ignited, the globe being swung during exposure. Platinotype prints were made from two portrait negatives by exposure to another form of the same light, the exposure being only fifty seconds. During the evening Captain Abney showed a continuous flash lamp produced by M. Nadar, of Paris, and the Hon. Sec. handed round a lantern-slide carrier introduced by Messrs. Perken, Son, and Rayment, in which by a simple device all danger of marking the surface of the slide by the fingers was obviated. On Monday, Nov. 23rd, Mr. G. L. Addenbrooke will give a lecture on "Cameras and Tripods." On Thursday, Nov. 26th, Rev. F. C. Lambert, M.A., will read a paper on "Some Analogous Aspects of Painting, Music, and Poetry," and will furnish musical and pictorial illustrations.

Cardiff.—The sixth annual meeting was held on the 13th inst., the President (Mr. C. F. Gooch) in the chair. The minutes of the last general meeting was read and confirmed, and the report and financial statement for the year ending 31st October last was received and adopted. A new council and officers, in accordance with rule, were duly elected. The retiring President was re-elected, and in acknowledging the compliment intimated his desire to place some suitable prize at the disposal of the council for competition amongst the members. Next Friday evening the Yosemite Valley (American) slides will be exhibited. Mr. J. Davies, of Penarth, was elected an ordinary member.

Coventry and Midland.—The Society held a special meeting on the 10th inst. Councillor W. Andrews presided. Mr. J. Howson gave a very interesting and instructive lecture and demonstration on the Ilford printing-out paper (gelatino-chloride) and the making of lantern-slides. Several finished prints were on exhibition, showing the various tones and finish. He then exposed four lantern plates, with the following exposures: 8 sec., 16, and 24, to a gas burner and one to a wax match, and developed them in one bath. The slides were handed round to the audience, and it was almost impossible to find any difference in their appearance, the results being very good, showing great latitude with the plates. The AMATEUR PHOTOGRAPHER 1891 Prize Slides were shown on the 18th inst.

Dewsbury.—A meeting was held on the 12th inst., Mr. A. S. Marriott (President) in the chair. Mr. S. Mitchell gave a demonstration on "Bromide Enlarging," using an oil-lantern as the illuminant. He commenced by giving some hints as to the developer he had found to give the most latitude and best results. The developer used was eikonogen, without any alkali, and made from a formula given by W. K. Burton. Two pieces of paper were exposed, giving one piece a minute and a half, and the other half a minute, one negative being a strong one, and the other a thin one. The paper used was Ilford rapid. The resulting pictures were satisfactory, and the members present were greatly interested in the demonstration.

Douglas (Isle of Man).—A special meeting of the above Society was held on the 14th inst. for the purpose of showing the AMATEUR PHOTOGRAPHER 1891 Prize Slides. The attendance of members was small, owing probably to its being a Saturday evening, but those who were present enjoyed a treat, the slides being first-class. Messrs. Thomson and Lomas took charge of the lantern, and a vote of thanks was passed to all who assisted in promoting a successful lantern night.

Guildford.—The usual monthly meeting was held on the 10th inst., when the AMATEUR PHOTOGRAPHER 1890 Prize Slides were exhibited and much admired. Mr. J. Marshall occupied the chair. Mr. E. A. Waddy gave the descriptive readings, and Mr. A. E. Moon manipulated the lantern.

Hackney.—The ordinary meeting was held on the 12th inst., Mr. Beckett in the chair. Messrs. Robinson, Hudson, Penny, Thirkettle, Rickless, Clear, and Large were nominated for membership. The Chairman introduced Mr. Howson, who proceeded to give a very able demonstration on gelatino-chloride paper. He spoke of the permanency of the print, quoting Mr. Chapman Jones as an authority, and preferred that the toning and fixing bath should be kept separate. Various questions were asked during the demonstration, by Messrs. Reynolds, Grant, Gosling, Lavareck, and others. Mr. Howson, who was most attentively listened to, in response to an

unanimous request from the members, said he would have very much pleasure in coming to further demonstrate the advances in photography made by the Britannia Works Co.

Holborn.—At the weekly meeting on Nov. 13th, Mr. A. J. Golding in the chair, Mr. T. C. Hepworth, F.C.S. (President) gave an interesting lantern demonstration. Nearly one hundred slides were shown. The first showed the difference between slides printed by contact and printed by reducing the same negative. He next showed slides on the various makes of plates, chloride and bromide, home-made and bought, etc. The next were a large number of slides of the Isle of Man, mostly geological, showing rocks, etc. These were followed by the concluding portion of the demonstration, a number of London street scenes. Mr. Hepworth pointed out the lessons learnt from the slides, showing the weak as well as the strong points.

Hull.—The winter session of the above Society was opened on October 29th by an address from the President (Mr. E. H. Howlett, F.R.C.S.), who took for his subject the various obstacles in the way of preparing a satisfactory negative. Dealing with the question of "Halation," Mr. Howlett said that for both landscape and interiors it was necessary to secure the best results that some system of backing should be adopted. Of all the various contrivances used for this purpose, none are entirely satisfactory. In order to satisfy the legitimate requirements of photographers in this direction, plate-makers would have soon to put a reliable backed plate upon the market. The theory was fully dealt with in its application to both films and plates, and it was pointed out that films were not entirely free from defect as regards halation. Passing on to exposure, the lecturer dwelt on the varying phases of light with clear and clouded skies, and showed that, in contradiction to what might be supposed, the lighting in the shadows was, as a rule, practically identical in both cases, thereby not prolonging the exposure when the sun was veiled by clouds. One of the most important factors in judging the exposure was the colour nature of the scene. In photography as in other work, one must have a thorough grasp of the subject in order to produce the best results. A good actinometer was one of the most valuable aids the amateur could employ. The lecturer next touched upon the researches of Hurter and Driffield in development, and whilst agreeing with their theoretical accuracy, held that the contention of practical men, that some amount of latitude in exposure is permissible and controllable by after processes, is also true. Retouching within certain limits was legitimate and admissible in order that the most might be made of certain negatives. To its conclusion the discourse was replete with information and valuable suggestions.

Ipswich.—The usual monthly meeting was held on the 11th inst. After preliminary business and election of new members, the Hon. Secretary, Mr. Leonard Hill, read a very interesting paper on "Bromide Printing," which he illustrated by a capital series of prints from his own negatives. The influence of duration of exposure and variation in developer, as well as the treatment advisable for "dense" or "thin" negatives, was forcibly demonstrated by this means. The majority of Mr. Hill's experiments had been made with the Eastman permanent bromide paper and the ferrous-oxalate developer, but some prints developed from the eikonogen formula given in a recent number of the AMATEUR PHOTOGRAPHER were much admired. After discussion, a collection of prints sent in for one of the AMATEUR PHOTOGRAPHER competitions were exhibited, and were generally admired.

Kendal.—A most interesting exhibition of photographic transparencies took place in the Museum Lecture Hall on the 11th inst. There was a good attendance, and upwards of one hundred and sixty views were projected on the screen. These consisted of the AMATEUR PHOTOGRAPHER 1891 Prize Slides, and were lent for the occasion by the Editor of the journal. Mr. C. E. Greenall and Mr. Isaac Robinson had the management of the slides and lantern, and Mr. Frank Wilson (in the absence of Mr. I. Braithwaite) presided and announced the subjects as they appeared. There were four classes of views, viz., art objects and paintings, architectural studies, figure studies in indoor or out-door, and landscape with or without figures. The prize winner's own photograph was also exhibited in each instance, with ten transparencies. In artistic effect and beautiful tone the views were as a whole charming productions, showing marvellous development in this mode of depicting scenes and figures by amateurs.

Leeds.—At the monthly meeting held on the 5th inst. Mr. W. Clement Williams (Hon. Secretary of the Halifax Photographic Club) delivered a lecture on "Some Aspects of Marine Photography." Marine photography, Mr. Williams said, was often looked upon as a sort of happy-go-lucky kind of thing; everything comes to him who waits, and in this kind of work it was necessary to wait. Day after day he had gone down to the sea shore in the hope of bagging a picture or two, only to be disappointed, for in this kind of photography it was absolutely necessary that the sea and sky should be taken at the same time. No fudging or double printing could ever produce a proper combination of sea and sky. In addition to an

art knowledge a ready decision was wanted, for effects must be caught at once or lost, perhaps, for ever, and the best effects were to be obtained during the autumn months. The clouds were then at their best. Sunset pictures, Mr. Williams added, were difficult to develop, and, indeed, patience was required to develop any kind of marine study. In addition to marine views proper, harbours, quays, the sands, etc., should be carefully looked over for picturesque studies of fisher folk, etc. One of the chief difficulties here was to obtain a natural pose and to get people to understand that the genuine picturesque costumes of the fishermen and fisherwomen were required; too often they wanted to rush off, wash themselves, and appear in their best clothes, when, needless to say, all their picturesqueness disappeared. Mr. Williams concluded his lecture with much technical information in regard to the subject of his paper.

Leicester and Leicestershire.—At a meeting of the society held on the 11th inst., Mr. Tucker, Loughboro', gave an interesting lecture entitled "A Journey through Snowdonia." Those who braved the elements were amply rewarded by a series of well-executed slides and a connective description, which went far towards rendering the lecture so complete a success.

Liverpool Camera Club.—On the 11th inst. (the President, Dr. Webb, in the chair) the rules and prizes for the first competition were decided upon, after which the beginning of a series of half-hours with elementary photography was given by the President, who took for his subject "The Camera, and how to Use it." The Council and some of the members were then flash photographed by Mr. Smith, and the concluding item was the passing of slides belonging to Messrs. Brown, Smith, Webb, and Freeman through the lantern. An extra meeting was held on Friday in the Lecture Hall, Moss Street, to exhibit the AMATEUR PHOTOGRAPHER 1891 Prize Slides. The collection met with the hearty applause it so well merited from the hands of an appreciative audience.

Munster Camera Club.—On the 11th inst. a demonstration was given by Mr. H. M. Smith. In opening the proceedings, Major Lysaght, President, explained in an interesting manner the aims of the Munster Camera Club. There would be monthly meetings held, at which papers would be read upon such subjects as enlarging, the manufacture of lantern slides, toning, etc. There would also be lantern exhibitions of slides made by the members. An instructive and pleasant evening was brought to a close with an exhibition of views taken by Major Lysaght.

Newcastle.—The ordinary monthly meeting was held on the 10th inst. Mr. T. Galloway presided, and there was a large gathering. Six new members were elected. The Hon. Secretary (Mr. Edgar G. Lee) read the list of awards in the association's competition for 1891, which was as follows:—Class 1 (three prints, 5 by 4 and under)—Silver medal, W. E. Cowan; bronze medal, James Brown. Six entries.—Class 2 (three prints, half plate and above)—Silver medal, T. O. Mawson; bronze medal, W. J. Tate. Ten entries.—Class 3 (one enlargement)—Silver medal, F. Park; bronze medal, W. H. Thorn. Four entries.—Class 4 (six lantern slides)—Silver medal, W. E. Cowan and H. G. Ridgway, equal. Thirteen entries.—Class 5 (six lantern slides), open to the world—Silver medals, John Carpenter, London, and G. E. Thompson, Liverpool; bronze medals, P. H. Fincham, London, and J. W. Wade, Manchester. Eighteen entries.—Mr. J. P. Gibson, Mr. P. M. Laws, and Mr. C. J. Spence were the judges. It is to be regretted that in the classes for prints so few members exhibited, and the executive can scarcely feel encouraged to promote a similar competition in future years. In the open class for slides most of the principal exhibitors are represented, and the work throughout is of the highest quality. A selection of the 268 slides sent in will be publicly exhibited in the lecture hall of the Literary and Philosophic Society, Newcastle, on Wednesday, the 25th November, at 7.30 p.m.

North London.—The ordinary meeting was held on the 17th inst. Mr. J. Traill Taylor in the chair. Questions having been asked from the question-box as to the use of Scott's warm-air saturator elicited a variety of opinions as to its usefulness, but without any definite result. The chairman brought forward a circular to be issued with reference to the proposed public recognition of the services of Dr. R. L. Maddox, in connection especially with the discovery of the gelatino-bromide process. Mr. F. A. Bridge then gave a demonstration on bromide printing, which was much appreciated by a large audience. Mr. Parfitt showed a gas by-pass elbow for regulating the light of any burner instantly. A lantern-slide competition was resolved upon, and also an exhibition of lantern-slides to which ladies would be invited.

Newport.—The ordinary meeting was held on the 10th inst. Mr. E. J. Smith presided. After election of members and other formal business, the Chairman called upon Mr. L. Lockyear for his demonstration on "The Intensification and Reduction of Gelatine Dry Plates." Having introduced his subject in a brief and practical manner, Mr. Lockyear discoursed upon the various processes of intensifying and reducing, supplementing his theories and instruc-

tions by object lessons of the different methods under notice. Speaking of the results of his professional experience, the lecturer placed first in order of merit the silver-cyanide method, after the well-known formulae contained in "Abney's Instructions." Darkening by ordinary sulphite of soda was recommended in preference to ammonia. Some useful hints were given upon the value of an old hypo bath as a means, by staining the film, of slightly increasing density. Examples were displayed of local reduction, in which parts were coated over with a solution of indiarubber, and the remainder subjected to mercuric bleaching and silver intensification. Uranium as an intensifier did not please Mr. Lockyear. With reference to reduction, both local and general, the virtues of hypo, 1 in 8, for reducing too intense negatives that had been intensified with silver, also with the addition of a few drops of ferri-cyanide of potass, to a bath of ordinary strength for over-developed plates, was fully demonstrated. Alcohol was spoken of as taking longer but giving no better results than ferri-cyanide. Attention was drawn to the intensifying results of breathing through a funnel-shaped paper upon desired portions during the action of developer. The Chairman, in moving the thanks of the meeting, regretted that at so useful a meeting the number present was not greater. At the subsequent discussion Mr. Mankire, Mr. F. J. Heybyrne, the Chairman, and Hon. Secretary dwelt on their various experiences with intensifiers.

Peterboro'.—The meeting was held on the 9th inst., Mr. Marsh reading a paper on "Bromide Printing," to accompany demonstration by Mr. W. N. Ellis. The prints were developed by both hydroquinone and ferrous oxalate, the latter being preferred for its tone. Mr. J. S. Ellis also showed a fine collection of carbon prints of Irish scenery.

Phot. Soc. of Ireland.—The ordinary meeting was held on the 13th inst., Mr. Geo. Mansfield, J.P., President, in the chair. There was a large attendance of members and friends. Mr. H. M. Smith, of the Eastman Company, gave an exhibition of lantern-slides made from Kodak negatives, and took the opportunity of mentioning the fact that a new bromide paper was about to be put on the market by his company.

Phot. Soc. of Great Britain.—An ordinary meeting was held on the 10th inst., Captain Abney, Vice-President, in the chair. The minutes of the previous meeting having been read and confirmed, certificates in favour of seventeen new members were read for the first time, and Messrs. L. L. Bateman, A. V. Elsdon, Harry Foster, T. H. Hardinge, A. B. Webber, and C. E. Webber were duly elected members of this Society. Mr. G. L. Addenbrooke read a report of the Affiliation Committee, and moved that the scheme be adopted by the Society. This was seconded and carried. The Vice-President then presented the medals awarded by the judges (Messrs. J. E. Austin, F. Hollyer, P. H. Newman, F. M. Sutcliffe, and J. B. B. Wellington) to the Autotype Company, Paget Prize Plate Company, Mrs. E. Main, and Messrs. F. P. Cembrano, F. L. Colls, R. W. Robinson, W. M. Warnerke, and G. West and Sons. Mr. Leon Warnerke read a paper upon "Photographic Technical Education upon the Continent," illustrated by lantern-slides. He gave an account of the schools at Berlin, Vienna, and Brussels, and explained their equipments. The discussion of this paper was adjourned to the meeting on December 8th, in order to allow the members an opportunity of seeing the paper in print. At the technical meeting to be held on November 24th, at the Society's rooms, 50, Great Russell Street, at 8 p.m., the subject for discussion will be "The Negative, and How to Make the Best of it." An example of photography in colours by Becquerel's process will be shown.

Preston.—A large company met on the 9th inst. to witness a series of limelight lantern exhibitions. The chair was occupied by the President of the club, Colonel Oliver, who gave an interesting address on the art of photography, dwelling on its valuable services and general usefulness. The AMATEUR PHOTOGRAPHER 1891 Prize Slides were then shown. The chairman said that the AMATEUR PHOTOGRAPHER opened an annual competition to followers of photographic art, and the slides of the fortunate ones were being now shown at almost every club of any note in the provinces. Those reproduced on Monday night included landscapes, sea views, portraiture and figure studies, architecture (interior and exterior), and fine arts. The excellence of these views was much appreciated by the large and critical audience present. The secretaries of the club, Messrs. W. J. T. Jackson and R. M. Worden, exerted themselves successfully to render the entertainment enjoyable.

Richmond.—At the meeting on the 13th inst., Mr. Cembrano in the chair, the discussion on "Halation" was opened by Mr. J. S. Teape. After demonstrating that the case of halation formed no exception to the rule that prevention is better than cure, Mr. Teape proceeded to show the results of various backings for plates with which he had experimented. He first showed a prism coated on one face in sections with (a) sienna with dextrine, (b) sienna with gum, (c) caramel with glycerine, and (d) caramel and sienna with gum, showing that (a) and (b) had perfect reflecting power, (c) and (d) scarcely any. The spectroscopic showed that caramel

intercepts the green rays and all beyond. Mr. Teape then handed round negatives and prints resulting from his experiments with the different backings mentioned, showing conclusively that caramel with glycerine was the most effectual, and that caramel and sienna with gum was nearly its equal (and, being more quickly dried, more convenient), while sienna with dextrine came very well through all but the most severe tests. Mr. Teape concluded his very able dissertation by giving formulae for the backings he had used. Mr. Ramsay showed the results of experiments with Dr. Cornu's formula (essence of cloves, etc.), and with a backing of black paper attached with glycerine—the former being effectual, but the latter of little if any use.

South Hornsey.—Ordinary general meeting held on the 12th inst., Mr. P. A. Legge in the chair. Mr. A. Rothschild read a paper on "Elementary Photography," which was followed by a discussion on photography in general. Subject for next meeting, December 3rd, "Developers."

West London.—The meeting was held on the 13th inst., Mr. Bilton in the chair. The Secretary exhibited a negative, showing effect of improper drying of the emulsion. Mr. Whitear exhibited a couple of negatives showing the result of placing brown paper between the films after exposure. Mr. Holmes showed prints on Aristotype, Celerotype, and the new Ilford paper. Mr. Rogers exhibited the Graphic hand-camera, and one on the same lines with improvements made by himself. Mr. Winter exhibited a new light and thin single dark slide for films, and a focussing screen to be used in connection with the same. Mr. Varden exhibited a hand-camera of his own design and manufacture, with swing-back and a novel method of inserting and changing plates; also a new tripod designed by himself more especially for cyclists. Mr. Leslie Selby showed some platinum-toned prints on silk. Mr. Hodges explained Mr. Humphrey's new method of printing platinotypes by artificial light. Mr. J. D. England doubted the originality of the idea.

West Surrey.—The usual meeting was held on the 11th inst., Mr. G. H. Seward in the chair. The usual business having been disposed of, the Chairman called upon Mr. John Bull to give his demonstration of the "Alpha Printing Process." In his introductory remarks Mr. Bull stated that he considered the Alpha process the most simple of photographic processes, and passed round a collection of prints showing the colours to be obtained by varying the length of exposure and time of toning, many of which were very beautiful. Mr. Bull proceeded to demonstrate how the work was done, by developing several prints from the same negative, which had received various exposures, afterwards toning them to show how to produce the desired colour. The Chairman, in proposing a vote of thanks to Mr. Bull, said that he wished to take this opportunity to show to the members the results of a series of experiments he had just made in the intensification and reduction of bromide and Alpha papers. But he would go further into the matter, when he gave his demonstration upon "Intensification and Reduction" later in the season. Mr. Bull in responding said that he had pleasure in presenting to the society an enlarging camera for the use of the members, and hoped that they would benefit by its use and show some good results. This announcement was received with applause. The Secretary, in thanking Mr. Bull for his gift, said that the members should feel greatly indebted to the donor for his generosity, and felt sure there would be a great demand for the loan of the camera. The next meeting will take place on Wednesday, the 25th inst., at 8 p.m., when Mr. George Davison will demonstrate the "Platinotype Process."

Yorkshire Phil. Soc. (Phot. Section).—The usual monthly meeting was held on the 4th inst. Two hand-cameras were exhibited by members, and their construction and method of working were very fully and carefully explained. A large number of prints produced by these instruments was on view, which showed forcibly the capabilities of these small cameras when used with judgment in experienced hands. The prints were, with few exceptions, perfect both in artistic arrangement and technical quality. Much useful information was imparted in the discussion relative to hand-camera work, many of the acknowledged difficulties being explained, and the sources of failure prominently brought forward. Prints on the new Eastman extra rapid bromide paper were on view, and much useful information was elicited in discussion on the various methods of development of bromide prints. One of the Vice-Presidents, Mr. W. Monkhouse, assisted by Mr. B. Wales, then briefly explained the general principles involved in producing a photographic enlargement, directing attention to the qualities of negative best suited for this process, as well as to the various optical requirements necessary for complete success. The construction of an enlarging apparatus for use without a condenser, and invented by Mr. Monkhouse, was explained, and a practical demonstration was given of the capabilities of the apparatus. Two enlargements were produced on bromide paper, the illuminant being magnesium ribbon, and the facility with which large prints could be produced, perfect in technique, at once proclaimed the apparatus as a most useful addition to the appliances of the photographic laboratory.

To Correspondents.

All communications for these columns are to be addressed to **The Editor, "Amateur Photographer," 1, Creed Lane, Ludgate Hill, London, E.C.**

RULES.

1. Write clearly and distinctly on one side of the paper only.

2. Write each Query or Answer on a separate sheet of paper.

3. Write the name and address legibly on the back of each communication, and sign all Queries and Answers with name or *nom de plume*.

4. All matters for these columns **MUST** be received by **TUESDAY MORNING'S POST**.

5. The Editor does not undertake to answer questions by post.

6. In answering Queries, correspondents are requested to mention, in every instance, the *number and full title of the query referred to*.

QUERIES.

5219. **Size of Image.**—Let me put my query another way (there was a printer's or writer's error in the original), and perhaps "Pen" will reply; I want to photograph a 9 ft. (2) object at a maximum distance (p yards), so that the image will be $\frac{1}{4}$ in. What focus lens do I require? As the focus being known (9 in.) also the distance (15 yards), what will be the size of image?—B.

5220. **Covering for Hand-Camera.**—I am making a hand-camera to be carried on my bicycle. Would any reader please tell me what would be the best material to cover the exterior with; would black enamel and nickel plated fittings do, as I want it to stand a shower of rain?—E. G. S.

5221. **Vignetting Bromide Prints.**—I should be glad to know how to vignette bromide prints. I have tried the coloured vignetting glasses with clear centres, but find they give a hard outline, even if tissue paper be used. I have also tried rotating them, with rough paper or cardboard vignettes, while printing, but cannot then be sure of the picture printing in centre of paper, as I require it. I want to get a softly vignetted picture when printing quickly or slowly, if possible.—BAYARD.

5222. **Reducing Camera.**—Will some brother amateur give me full particulars how to make a reducing camera for lantern slides from half-plate negatives? Will half-plate lens do?—B.

5223. **Washing Gelatin-Chloride Prints.**—Can any reader inform me which is the best washer for these prints, or recommend the best system, apart from the use of any particular washer? I recently purchased one of the most popular makes, and was delighted with the way it acted with albumen prints, but on using it for Aristotypes and the new Ilford print-out paper I find that these papers are so heavy as to fail to go round in the orthodox manner, instead of which they lie all in a heap in one part of the tank and scarcely move at all. I could make them move by using the maximum water pressure available (100 lb.), but in such case the jet would soon tear them to shreds. I should be very glad to hear the experiences of others in this direction. My washer is intended for whole-plate and under, and my prints are half-plate.—THERMO.

5224. **Dry Plate Photography.**—Could you or any reader inform me if the papers on "Dry Plate Photography" that came out in *Amateur Work* about four years ago were republished in book form, and if so, who was the publisher?—F. A. H.

5225. **Photo-Colours.**—Can anyone enlighten me on the following points? (1) Whose photo-colours are the best, where are they obtainable? (2) Where is the best place to get several dozen pieces of thin finely-ground glass, size $3\frac{1}{2}$ by $3\frac{1}{2}$.—R. A. W.

5226. **Negative Into a Positive.**—I have heard a negative can be turned into a positive with creamy white suitable for framing. If this is a useful fact, I shall be glad of as full particulars of the solution required for producing same as any reader can give me.—W. H. E.

5227. **Ilford Formula.**—I should like to know if I can substitute bromide of ammonium in the Ilford formulae for developer with bromide of potassium? If so, how much bromide of potassium will represent a given quantity of bromide of ammonium? For instance, with the Barnet plate the formula is bromide of ammonium 120 grs., 1 oz. liquid ammonia, and 2 oz. of water. Can I use bromide of potassium for ammonium and how much?—W. H. E.

5228. **Backgrounds.**—Could any reader oblige me with full particulars of the best background for

amateurs, both for outdoor and indoor work?—W. H. E.

5229. **Canvas for Enlargements.**—Is canvas a suitable material to use for enlarging on? If so, I shall be much obliged to any reader of the *AMATEUR PHOTOGRAPHER* who will give me a cheap and easy method of preparing and sensitizing it.—W. H. E.

5230. **Methylated Spirit.**—Which is the best way to free methylated spirit from resin?—W. H. E.

5231. **Clouds.**—What are the best conditions under which clouds are taken, also the best method of printing in clouds? Full particulars will oblige.—W. H. E.

5232. **Universal Flange.**—Could any brother amateur photographer tell me if Fallowfield's Universal Flange will hold the lenses securely, and greatly oblige?—CONWAY CASTLE.

5233. **Enlarging.**—I wish to enlarge from Lancaster's quarter-plate to half, etc. What exposure should I give with a R.L. lens working f/11, and is bromide paper the best? Would any brother amateur kindly advise me?—CLONMFL.

5234. **Negative Varnish.**—Will someone kindly tell me how to make a good negative varnish?—ROY.

5235. **Retouching.**—Can any reader give me the name and address of a really first-class retoucher, either in Manchester, Derby, or the Staffordshire Potteries, who gives lessons, and what is about the fee per lesson?—HAWK.

5236. **Gas Light for Lanterns.**—Can anyone oblige with some information about the gas lamp for the optical lantern, as sold by the Incandescent Gas Light Company of Westminster, whose advertisement appears now in the *AMATEUR PHOTOGRAPHER*? Is the light as good or better than that obtained from a four-wick oil lantern?—E. M.

5237. **Dishes for Enlarging.**—Can anyone give me particulars for making dishes for enlarging out of wood or any other method, if thought preferable?—10RN.

5238. **Exposure for Enlarging.**—I want to know exposures for enlarging by daylight at this time of year at mid-day.—HUSAR.

5239. **Exposing Plates Twice.**—Can anyone kindly suggest any device to ensure sensitive plates not being twice exposed, or in the flurry of work, especially in circumstances when one's nerves are "on the stretch," anything to secure one against inserting the dark-slide in the camera, same side towards the lens, twice?—CAPE COMORIN.

5240. **Ferrotypes Dry Plates.**—Will anyone kindly give me their experience of Fallowfield's new dry ferrotypes plates, as to exposure, results, etc.? Thanks in anticipation.—PUZZLED.

QUERIES UNANSWERED.

Oct. 30.—Nos. 5166, 5168, 5169, 5171, 5172.

Nov. 6.—Nos. 5186, 5190.

„ 13.—Nos. 5193, 5205, 5206, 5207, 5208, 5212, 5215, 5216.

ANSWERS.

5165. **Enlarging Apparatus.**—"R. W. T." wants to make an inexpensive enlarging camera. I have recently made one to my own satisfaction, though I do not suppose such would be offered for sale. As to the length of such camera, "R. W. T." must be guided by the focus of the lens he possesses. I had lenses of $4\frac{1}{2}$ in. and $5\frac{1}{2}$ in. foci, and consulting a table of enlargement soon made me decide to use the $4\frac{1}{2}$ in. lens, as requiring the shortest box. With my $4\frac{1}{2}$ in. lens, to enlarge from quarter-plate to 12 by 10, requires a distance of 18 in. from lens to ground-glass or bromide paper, while from half plate to 12 by 10 would require $13\frac{1}{2}$ in. Having decided so far, I got some 1 in. stair-railing about 20 ft. in length, then I got from a bookbinder two sheets of millboard 28 in. by 25 in.; these he cut into half size, or 25 in. by 11 in. I then cut four lengths of wood 25 in. long, and eight pieces 14 in. long, with which I made a good, stout frame 25 in. by 14 in. I formed the bottom and side by nailing three of the pieces of cardboard to the frame. Over the top I fastened, very very loosely, with drawing pins, two pieces of black twill calico, having a piece of Turkey red between. This loose top enables to lift up easily the improvised slides necessary to cheap apparatus. The front end I enclosed by screwing part of a box bottom I got from a grocer. Having centred this, I cut the hole and screwed on the lens flange, which fits both my lenses. The back end I cover as the top with two eleeves. My focussing screen (glass) I have fitted on a frame made from a soap powder box, and I use a similar arrangement, same size, for attaching my bromide paper. To focus, I use a rabbit slide, and, by means of a thin screw, bolt, and nut, can hold the screen perfectly tight. Having focussed, I carefully remove the screen, to avoid moving the slide, and as carefully put on the frame with the bromide paper, and screw the nut tight to avoid any movement. Next I put on my back cover, again fastening with drawing pins, and by placing my hands through the sleeves remove a stiff brown paper cap, which I fit over the bromide paper to keep away light. Everything is now ready for exposure. I may say here that this apparatus has been used in my back yard in bright sunlight, and though, possibly, very primitive, is equally effectual. My enlargements of portraits have given satisfaction to my friends. "R. W. T." may think this is a trouble-

some mode, but I had more time than money. If he is the same, and will follow out the instructions given, I think he will be satisfied with the result. I ought to say that I have another dry soap box, with a hole cut in the bottom a little smaller than the size of the negative I want to enlarge, and cut off all extraneous light by throwing a dark table-cloth over the intervening space between lens and negative. I have not tried very much with artificial light, but from what little I have done am convinced that my camera will prove worth the trouble I gave in the making. Total cost of material, not 2s. 6d.—JOSEPHUS.

5192. **India and Japan.**—If "A. R. F." will write to me I will give what information I can, founded on my own experience in India, and also that of friends. It would take up too much space under "Answers."—Major BECHER, R.A. (94, Piccadilly).

5194. **Toning Bath.**—It is generally known, I think, that toning baths ought to be filtered after using. This does not follow for all the baths, but it does yours. This is the reason you have a black deposit after keeping it a day or two.—W. H. ELLIS.

5194. **Toning Bath.**—The black deposit is the metallic gold which has probably been thrown down by some impurity in the water used for making up the bath. To prevent as much as possible, exclude all actinic light from the bottle and use distilled water. The deposit will occur to slight extent, no matter how careful you may be. Read the notes on this subject on page 200 of Wall's "Dictionary."—ISO.

5195. **Painting Lantern Slides.**—The publications on this subject in photography are very few, but you will find a few hints in Wall's "Dictionary of Photography," and, as recommended in this book, Brodie and Middleton's book on this subject might be of service to you.—W. H. ELLIS.

5195. **Painting Lantern Slides.**—Get "The Book of the Lantern," by T. C. Hepworth, published by Hazell, Watson, and Viney, Ltd., 1, Creed Lane; it gives full directions for making and colouring lantern slides. A very good book.—ZEBRA.

5196. **Sulphite of Soda.**—You were under the wrong impression. The formula given you is correct.—W. H. ELLIS.

5197. **Uranium Toning.**

Borax	1½ drms.
Uranium nitrate	4 gr.
Gold	3 "
Water	24 oz.

—R. A. R. BENNETT.

5197. **Uranium Toning.**—Scholz's formula is as follows:—

Powdered borax	90 gr.
Gold chloride	4 t.
Uranium nitrate	4 "
Water	24 oz.

Print very deeply for matt-surface paper.—S. C. B. (Genoa).

5198. **Shutter.**—Thornton-Pickard's time and instantaneous shutter is much the best, and comparatively cheap.—R. A. R. BENNETT.

5198. **Shutter.**—The "low figure" shutters are not generally the best working instruments. I should recommend you to purchase a Thornton-Pickard time and instantaneous shutter, which is a very good article indeed.—W. H. ELLIS.

5199. **Holes in Negative.**—I refer "Amateur" to Wall's "Dictionary of Photography" and "Amateur Photographer's Annual" of 1891, where he will, I think, find all he requires.—W. H. ELLIS.

5200. **Sensitometer Number.**—In working out the exposure with Ilford ordinary and Thomas's landscape plates you should divide by some number between 20 and 30, as the plates are of about the same rapidity. Try 20, and if you find this gives over-exposure, try 30. The sensitometer No. will not assist you much.—ISO.

5200. **Sensitometer Number.**—In reply to this query, the following are the numbers, I think, required by "Neville," viz.: The Ilford plate ordinary, $3\frac{1}{2}$ by $4\frac{1}{2}$ (quarter-plate), 1s. per doz., sensitometer No. 30, but 18 or 19 are the correct figures; half-plate ($6\frac{1}{2}$ by $4\frac{1}{2}$), ordinary, 2s. 3d., is the same. Thomas's plates, the ordinary, etc., as Ilford, both quarter and half-plates, is 15, but 15 or 18 are correct; the extra-rapid or landscape plates, 2s. 3d., is 60 and 25. These are correct to my knowledge, but you will have it further explained in Wall's "Dictionary of Photography."—W. H. ELLIS.

5200. **Sensitometer Number.**—Ilford ordinary 20 times, sensitometer number 18—19; ditto new rapid 40 times, 19—20; ditto special rapid 80 times, 23—25; Thomas T.C. landscape 15 times, 15—18. In Wormald's tables you will find sensitometer numbers of all plates. This is an extract.—B.

5201. **Negative Scratched.**—You can in no way do anything with your scratched negative so as it (the scratch) will not be noticed in printing.—W. H. ELLIS.

5203. **Reducing Camera.**—It is possible, but will require careful thought in exposure, etc.—W. H. ELLIS.

5204. **Purple Tones.**—The following bath is said to give purple tones, but I have not tried it:

Chloride of gold	1 gr.
Carb. soda	60 "
Citric acid	20 "
Distilled water	10 oz.

Mix and warm till it changes colour. It will not keep.—ISO.

15209. **Uranium Toning.**—It is not absolutely necessary to do so, but your prints will, you will find, keep much longer if refixed. —W. H. ELLIS.

5210. **Lancaster's Instantograph.**—Underwood's Instanto is well made, efficient, and a reliable apparatus. It gives every satisfaction. You could not do better than to purchase one. —F. W. WALTER.

5210. **Lancaster's Instantograph.**—Messrs. Lancaster and Sons' £1 11s. 6d. camera is a thoroughly reliable camera. The £2 10s. 6d. set is all that an amateur can desire. —J. R. COOKE.

5210. **Lancaster's Instantograph.**—Both cameras are excellent for the money. I have seen some really fine work done with Lancaster's Instantograph. —ZEBRA.

5210. **Lancaster's Instantograph.**—The exact amount of difference in superiority between these two cameras, etc., is not known, because both are as good as each other; therefore it leaves you to make your own choice, which is not very difficult to decide upon. —W. H. ELLIS.

5211. **Platinotype Process.**—The same answer to this query is required as I give to No. 5210. I use the hot process in the winter, and the cold in the summer. I have found the processes to be both as good as each other, but, if anything, the hot is, in my opinion, the better, but you will not be doing yourself any harm by trying each yourself, and see which you like the best. —W. H. ELLIS.

5211. **Platinotype Process.**—The easiest platinotype process is the "print-out." I have obtained splendid results on Pizzighelli paper during the past summer. Shall be glad to let you see some prints if you write me through the Editor. —Isa.

5211. **Platinotype Process.**—Hot bath process is much the pleasantest to work, and gives much the best results. —R. A. R. BENNETT.

5213. **Hydroquinone Developer.**—If "N. M. H." requires a developer for most work, I can recommend him Lockyer's hydroquinone developer, which, in my opinion, is a very good and sound developer. —W. H. ELLIS.

5213. **Hydroquinone Developer.**—The following is a very good formula for either plates or papers:—

(A)		
Hydroquinone (best)	..	75 gr.
Sulphite soda	..	220 "
Brom. of pot.	..	12 1/2 "
Water, made up to	..	10 oz.

(B)		
Carb. soda (not bi-carb.)	..	450 gr.
Carb. potass.	..	450 "
Water, made up to	..	10 oz.

When mixed, the solution should be quite clear. Use equal quantities of each. —ZEBRA.

5214. **Hand Camera.**—"Z." will find Humphries' hand-camera highly satisfactory. The automatic changer is perfect. Cannot recommend the Argosy. —SNAP.

5214. **Hand Camera.**—Pizzotti's hand-camera is one of the best I have used, the changing arrangement for twelve plates (quarter size) being most simple. It is fitted with a rectilinear lens, and has focussing arrangement. —A. G. TOTTEW.

5217. **Egypt, Kit for.**—I should myself only take a Kodak and a Watkins' exposure meter. As Cairo is of very doubtful salubrity, you should not stay there taking photographs. Go to the hotel at the Pyramids, and up the Nile. —M. D.

5217. **Egypt, Kit for.**—Take exactly the same kit as you would for a summer holiday at home. I should advise getting plates from home by post, periodically, as you thus can guarantee them being fresh. —B.

5218. **Camera Bellows.**—If you can get "Amateur Work," vol. ii. (old series), you will find full instructions at page 364. You can get the monthly part, containing that page, separately. —R. A. R. BENNETT.

EDITORIAL.

SPECIAL NOTICE.—We are very pleased to find that replies in this column are so much appreciated, but we should be very grateful if those requiring advice would send their letters to us BEFORE THURSDAY MORNING'S post if possible. The time occupied in replying in this column is very considerable, and owing to the often late receipt of letters, many matters have to be left over each week. This we much regret. —ED.: AM: PROT:

CONFUSED.—You cannot do better than have a whole-plate Watson's Acme and a Dallmeyer's R.R. lens. Griffiths make a lantern-slide-making camera, and so do Pearson and Denham. Both will be on exhibit at our offices on our "Monday Evening," November 23rd. You had better join the Sydenham Camera Club.

C. E. GREENALL.—Your kind letter, with votes of thanks, etc., is most encouraging. We are pleased you had so good an audience.

M. A. MEIGH.—We comment upon the matter in "Our Views" this week.

PLATT AND WITTE.—If you advise us when the camera is ready we shall hope to be able to come and see it.

IGNARUS.—(A) The platinum paper may be kept till evening or next day. (B) Kallitype image is quite permanent, more so than silver prints. The prints may be reduced by immersion in hydrochloric acid and

water, 1 to 10, and intensified, we think, by treatment with a 5 per cent. solution of permanganate of potash. We shall refer to this, however, in a future article. (C) Probably the stain is silver, but we could not tell unless we saw negative. We shall be pleased to examine it for you. (D) The best plates for cloud work are Obermeyer's orthochromatic plates, to be had from Gotz, 19, Buckingham Street, Strand. We hope to have a leader on this presently. Always pleased to help you and receive your help.

PRIT-A-PAT.—You omitted name and address, so we were unable to write you. Send it on, and we will write you per return.

M. LEWIS.—We will write you as soon as anything definite is settled. The print you send is a charming little view only spoiled by the movement of the trees; the technical work of printing, etc., is good, and promises well for your future progress, as this is the result of three months' work.

T. W. W. MELHUISE.—Thank you very much for description and prints. We had a note on the apparatus in type but will use circular.

PANJABI.—(1) The size of the image is dependent on the focus of your lens, and till you obtain a long-extension camera it will be useless for you to try and take a distant view. (2) Blisters can be avoided by using all water and solutions at the same temperature, and by immersing the prints after toning in strong salt and water or 1 part of methylated spirit and 3 parts water, then fixing and using salt and water after fixing. (3) The Ilford ordinary are quick enough, but we should advise their white-label plates as giving more detail in the shadows, and thus obviating the fearfully black shadows which too often characterize tropical views; the idea should be to use a rapid plate so as to reduce the glaring contrasts; for time exposures, however, the Ilford ordinary. We should be pleased to see you any Monday afternoon from 2 to 5.

H. F. LINGING.—It is quite true that the addition of old bath to the new increases the proportion of sulphocyanide, but the paper will stand it. The toning bath will keep. Instead of common alum, 1 part of chrome alum dissolved in 100 parts of water and solution of ammonia added till a permanent precipitate is formed, then filter and use.

A. M. Z.—The print is well balanced and good technically, but would be improved by half an inch less foreground. The lens is certainly a good one; considering the short time you have been working, the result is very good.

J. M.—Wilkinson's "Handbook to Photo-engraving, Collotype, etc.," price 5s., and "Collotype," by E. C. Middleton, 5s., both to be had from our publishers.

W. WALLACK.—The following is a good one:
Gum juniper 1 lb.
Venice turpentine 4 fluid oz.
Oil of turpentine 8
Methylated spirit 64 O.P. .. 1 gal.

F. A. H.—We should strongly advise you to join the North Middlesex Phot. Soc. You can easily get to the place of meeting from the "Nag's Head," which is close to Tufnell Park. We published a letter from the Secretary last week.

REV. H. J. SIBTHORP.—Really we cannot undertake to criticise the whole of the slides sent to our competitors; but will look up yours and possibly write you at the end of the week.

E. DAWES.—The address of the Brin's Oxygen Company is Horseferry Road, London, S.W.

SENEX.—(1) You can do nothing with plates full of pinholes. (2) You can use Brunswick black. (3) We are afraid the fixtures for 1891 Prize Slides are all made for January.

ARTHUR JANE.—Many thanks for sketch of vignette. Will write you about pyro developer.

O. APPLETON.—A full list has been published, and we hope to give the awards next week.

MRS. HENRY BOWLES.—The photographs, except the prize ones, will be returned in about a fortnight from the present time.

F. W. LEVETT.—Your letter is most interesting and encouraging; there is much to be said on both sides, but we have before us a programme for the winter session, in which not one single evening but what there is an outside show, the members providing nothing.

H. JUDSON.—At the moment of writing we cannot lay our hands upon your photographs, but will have a search for them.

LITHO.—We really cannot advise you in the matter of the slides; we have never used them in the lantern.

NENNIE.—You can send in the photographs provided they did not take a prize.

H. HAMMOND.—The awards were made in the AMATEUR PHOTOGRAPHER of the 30th of October.

H. W.—(1) If a bronze medal were awarded to a past prize-winner he would receive a medal from our "Progressive" or Niece dies. (2) We at present see no reason for altering the condition that each competitor shall send in an MS. account of his "Holidays with the Camera."

CHAS. H. GREENWOOD.—There is no charge for tickets for the AMATEUR PHOTOGRAPHER "Monday Evenings," and one has been sent you by post. There is an excellent Photographic Society at Hackney; you could, without much difficulty get there. Secretary, W. Fenton Jones, 6, Victoria Street, King Edward's Road, Hackney, E.

LUX.—Much obliged for your note; we shall use for next week. All your prints are very good and are

quite up to our competition standard. Nos. 2, 3, and 4 are exceptionally good. May we retain prints?

T. F. BELL.—The No. 3 Kodak is a good instrument, but if you want to use the camera on a stand we should advise the new 1891 Talmer or Chadwick's, using dark slides and cut films.

G. BROMIE.—Blue lines on white ground process; prepare three stock solutions:

A.			
White gum arabic	..	90 gr.	
Distilled water	..	1 oz.	
B.			
Ammonio citrate of iron	..	225 gr.	
Distilled water	..	1 oz.	
C.			
Ferrie chloride	..	225 gr.	
Distilled water	..	1 oz.	

For use mix in the following order:

Solution A	..	20 parts,
" B	..	8 "
" C	..	5 "

The mixture is first thick and then becomes thin, and will keep for several days in the dark. Well sized paper should be chosen and sensitised with a brush, and the mark evened out by another brush. Dry the paper quickly in a warm room and keep in the dark. For ordinary work, five to ten minutes' exposure to sunlight or fifteen to thirty to diffused light. The development is effected by brushing with a 20 per cent. solution of yellow prussiate of potash. The print is well washed in running water and then laid for ten minutes in a 10 per cent. solution of hydrochloric acid, and again washed and dried. For faults and corrections use:

Causitic potash	..	125 parts.
Oxalic acid	..	100 "
Distilled water	..	1,000 "

The black line process is as follows:—Coat good stout paper by means of a brush or sponge with the following solution:

Water	..	12 oz.
Gelatine	..	2 1/2 drms.
Ferric chloride	..	5 1/2 "
Tartaric acid	..	2 1/2 "
Sulphate of zinc	..	2 1/2 "

Expose in the printing frame till the greenish-yellow colour of the ground is bleached, and develop with:

Gallic acid	..	2 1/2 drms.
Methylated spirit	..	7 oz.
Water	..	34 "

Then wash in acidulated water and dry.

MUTE.—Alpha paper will retain its sensitiveness four years. Judging from the prints, the bridge negative is rather thin, and actually you have over-exposed. This is proved by your obtaining a brick-red image. Both the prints of the church are under-exposed; we should say that four minutes would not be too long for this. If you are using the combined fixing and toning bath of hypo and gold, the bath should be quite clear, and ought to tone at least thirty or forty prints; dissolve all the salts in the water, allow to stand twenty-four hours, then filter and add the gold. We are always pleased to help you as far as we can, both now and in future.

VICTOR.—(1) It is extremely difficult to make a transparency on an ordinary Ilford plate, by exposing it to daylight, the sensitiveness being too great; about a quarter of a second would have been ample exposure, we think; even by gaslight six seconds would have been too long. It is an old and well-known method of making reversed negatives from a negative to expose by contact printing. (2) There is no work treating specially of electric light as applied to portraiture. Eder's "Photographie bei kunstlichem Licht" is the only work we know which devotes any space to it. 2,000 to 3,000 candle power is required, and then an exposure of 7 or 8 seconds is necessary. We have, however, sent your letter on to an electrical expert, and on hearing from him we will write you.

W. W.—All your prints are over-printed, and by no means improved by the vignetted and pink paper. Try some bromide or matt-surface gelatino-chloride paper, and then let us see the results.

P. B.—(1) Good; might be printed slightly deeper. (2) There is a want of sharpness about this, and print is decidedly flat. (3) Flat, and no object of interest. (4) Good of its kind. (2) We will try and do what you ask, but shall not be able to for a week or two—write again in a few weeks time. Do you want prints back?

A. RUSSELL.—The fault in your work is under-exposure; give a longer exposure, and add a little more water to the developer. If your negatives are very dense use a rapid bromide paper like the Ilford Rapid or Eastman's new paper.

R. A. R. B.—We think Pamphengos will suit you admirably, that is supposing you intend using oil only.

J. M. N.—We know nothing of the A lens, but the other one you mention is one of the best detective lenses in the market, and will do all that is desired of it.

J. A. WARBURTON.—Your letter shall appear next week, received too late for insertion.

YORKSHIRE.—Whatever we may think, we feel that we are not free to discuss the subject of the subscription enforced by the Committee of the Camera Club.

ANXIOUS.—The bath in question will tone nearly a quire of paper, or about 100 half-plate prints.

Miss M. WATSON.—We should be inclined to reduce the quantity of bromide of potash to $\frac{1}{2}$ gr. per oz. The same developer could be used for enlargements.

H. S. W.—(1) Wood's washer for preference. (2) Yes, the borax bath may be used, but should be double strength.

JAMES BULLOCK.—(1) The only thing to do is to copy the print by means of the camera. (2) Make your photograph by dissolving

Ferroxylin	...	...	...	6 gr.
Ether	...	...	...	$\frac{1}{2}$ oz.
Methylated spirit	...	...	...	$\frac{1}{2}$ oz.
Castor oil	...	...	...	1 drop.

Clean a glass plate thoroughly, dust with French chalk, polish off the superfluous powder, coat thickly with collodion, and allow to set on a level place. Make a solution of gelatine 30 gr. to the ounce of water, and whilst warm, slip the collodionised plate in it and the print on top, lift out together, squeeze into optical contact, and allow to dry; when dry, slip a penknife under one corner and strip. (3) Sulcliffe, Long Row, Horsforth, Leeds. (4) About 14 in.

W. B. BURROWS.—Your plan was a good one; "coffee and sandwiches" would be a happy relief after forty minutes with the lantern.

MILFORD.—Will write you direct.

H. DEAN.—Have advised you about the 1891 Prize Slides.

W. M. GEORGE.—We will make enquiries.

HORACE BOOTY.—Very many thanks for print. Will reply further next week or by post.

Miss H. J. GILCHRIST.—Thanks for your letter. Nothing definite has been settled about the classes, but you will hear further at a later date.

Mrs. M. LEWIS.—We are replying to you. Theadies classes we shall hope to establish. Full particulars will, of course, be announced.

Sale and Exchange.

CHARGE.—Twelve words or less for Fourpence. Every additional three words, one penny. The name and address of the sender must be paid for. (A single figure, or group of figures undivided by letter, space, stop, or words, counts as one word; compound words count as two words.)

Backgrounds.—Pair of backgrounds, interior and exterior, high-class, 8 ft. by 8 ft., on rollers, complete, not soiled; 50s. the pair; with double.—3, Waverhill Road, Handsworth, Staffs.

Exterior background, 8 ft. by 12s.; vols. ix., x., xi., xii. AMATEUR PHOTOGRAPHER exchange.—Tooth, Photographer, Rugby.

Three backgrounds, in flatted oils, 8 ft. by 6 ft. 4 in., on linen and roller, new and perfect; handsome interior, 15s.; mansion grounds, 12s. 6d.; garden scene, 12s. 6d.; satisfaction guaranteed; photographs forwarded.—Hare, Photographer, Sutton, Surrey.

Bicycle.—Will exchange splendid Safety bicycle, cost £13, for good half-plate camera, complete, and cash; photograph sent.—James Bullock, Fenn, Wolverhampton.

Safety bicycle, excellent condition, Down's balls throughout; £5 10s.; exchange hand-camera of good make.—Hannaford, 38, Acland Road, London, W.

Cameras, etc.—Lancaster's Omnigraph best leather, good as new; 19s.; carriage free.—Storey, Railway Station, Kestock.

For sale, 5 by 4 studio camera, bellows body, rising front, three carriers; 21s.; a bargain.—M. Adams, Sunnyside, Altofts, near Normanton.

1891 President half-plate camera, two slides, 4-fold mahogany stand; price £4 4s.; Editor's approval.—66, Middle Street, Keovil.

Cameras, Lenses, etc.—First-class half-plate camera, three slides, good Suter lens, can show fine specimens of work; accept £8; or exchange brass-bound camera by Watson.—Zimmermann, Post Office, Broomhill, Sheffield.

Sharp and Hitchough's 5 by 4 Universal camera, in a walnut case, with Thornton shutter, Dallmeyer's half-plate R.R. lens, Iris stops, automatic cut off to lens and finder, three double backs, turntable, with 3-fold stand, all brass-bound and new; also Ferkin and Raymen's 12 in. single lens, with front to lens camera; price £12 10s.—No. 231, AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.

Bellows camera, 7 $\frac{1}{2}$ inch, changing appliances (by Hare), R.R. lens, Iris, etc.; price £5; bargain.—Walter, 11, Merion Street, Dublin.

Hand-Cameras, etc.—Fallowfield's Facile, with case, nearly new; £6; price £4; will take a Taylor and Hobson's 5 in. hand-camera lens as part payment.—No. 227, AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.

Quadrant hand-camera, fitted with Facile lens; 105s.; cost 140s.—B., 10, Abbey Road, Torquay.

Sirra's cameras, small and large; 15s. and 20s.—F. G., 248, Bristol Road, Birmingham.

Facile, Fallowfield's, scarcely soiled; will sacrifice immediately for 20s.; first P.O. will purchase.—Address, F. W., 22, Lupin Street, Birmingham.

New Griffiths' hand-camera, cost 23s. 6d., take 15s.; new Itak, with finder and focussing screen, in leather case, cost 28s. 6d., take 16s. 6d.; never been used.—W. Beauchamp, 68, Osborne Road, Southsea.

Lanterns.—Hughes' Pamphleux, good as new; £5 10s.—H. Short, Ferry Road, Acton.

Lantern (old pattern), with $3\frac{1}{2}$ in. condensers, Triplexion lamp, and 50 slides, cheap, or exchange other slides.—Copeman, Henstington.

Binual oxy-hydrogen lantern, mahogany body, 4 in. double condensers, $1\frac{1}{2}$ in. objectives, 6 in. focus, brass stands, curtain and draw-tubes, blow-through jets and dissolver. Wanted, first-class modern half-plate camera, R.R. lens, slides, etc., or £8 cash.—Whitehead, 141, Manchester Street, Oldham.

Lantern Slides.—60 lantern slides, in box, consisting of splendid views of rivers Dee, Wye, and Trent, and village of Wilford, Haddon Hall, etc.; price 28s.—A. Davis, 10, Dunsford Villas, Merton Road, Wandsworth, S.W.

Lenses, etc.—Underwood's 9 by 7 landscape lens, f/8, Iris stops, quite new; cost 27s.; sell 20s.; approval.—Storey, Alston, Cumberland.

Bargain.—One of Dallmeyer's famous triplet half-plate lenses for sale, as new, not scratched anywhere; price £3 5s., or offers; approval on deposit.—F. C. Barton, Saffron Walden.

Negatives.—Whole, half, and quarter plate negatives of Minehead, Lynton, Dunster, for sale.—Evans, Tanner, Minehead.

Sets.—12 by 10 camera, two solid backs, Ross' Universal lens, No. 3, with diaphragms, eight printing frames, sliding tripod stand, velvet focussing cloth, one porcelain dish, 12 by 10, three ebonite trays, book on retouching; £12; or good Safety and cash.—H. M., Worcester House, Weedon, Northamptonshire.

Samuel's patent detective camera, with rectilinear lens, shutter, finder, and changing bag, carries twelve plates 2 $\frac{1}{2}$ by 3 $\frac{1}{2}$, in sheaths, with case, warranted in perfect order; will exchange for Instantograph quarter-plate or Underwood's Instanto.—T. Jones, Brynnyr Hall, Mold, Flintshire.

Giving up photography. Lancaster's half-plate International camera, with rapid Rectigraph lens, Iris diaphragm, three dark-slides, and tripod stand, £4 5s.; Underwood's Sphynx hand-camera, Eurysscope lens, covered morocco £3; also developing trays, background, and other accessories for sale, very cheaply; send for list.—No. 230, AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.

Marion's whole-plate Ultra camera, Voigtlander lens, stand, three double backs, in leather case, really first-class set, equal to new; cost over £15; offered for £9 10s.; genuine.—Amateur, Central Library, Hastings.

Underwood's quarter-plate Compactum set, as new, bargain, 12s.; 2 $\frac{1}{2}$ in. pneumatic drop shutter, 4s.—14, George Street, Stroud, Glos.

Lancaster's half Instanto, lens, shutter, tripod, and three double backs, complete; 77s. 6d.—Lucas, Jeweller, Fulbrough.

Taylor's 6 in. detective lens, Iris diaphragm, new, perfect, 50s.; Parker's 10s. 6d. bamboo tripod, for 6s.; Kershaw's instantaneous shutter, 2 $\frac{1}{2}$ in., 10s.; 5-guinea Facile, for £4, new, perfect condition.—1, James Leech Street, Stockport.

Ross' No. 3 rapid cabinet lens, new, cost £19 10s., Darlot's cabinet lens, new, cost £3 10s., both complete with stops, offers; also Chapman's half-plate camera, three double backs, and 4-fold tripod, almost new.—No. 226, AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.

Optimus half-plate long-extension camera, six double dark-slides, Optimus 7 by 5 R.R. lens, with Iris diaphragm, Suter 10 in. landscape lens, Thornton-Pickard time and instantaneous shutter, 4-fold stand, velvet focussing cloth, waterproof case, Griffiths' lantern slide camera, Optimus lamp, printing frames, dishes, chemicals, all new this year, excellent condition; cost over £20; price £12 10s. for cash; approval; or can be seen by appointment.—Chappell, 100, Victoria Street, Westminster.

Shutter.—Roller blind instantaneous shutter, for 1 $\frac{1}{2}$ in. lens hood, quite new, and suitable for hand-camera; price 7s. 6d.—Thomson, Laureston Road, Douglas, Isle of Man.

Sandries.—Two gas bags, double pressure boards, one retort, and purifier; £2 2s.—J. Johnston, Grey Flatt House, Carlisle.

Singer's Singer Safety, list price £18 15s., will take £10; Challenge fret machine, best made, cost £4 15s., take £2 15s.; also Statham's £5 5s. chemical chest and good compound microscope, highest power 20,000; sell, or exchange part or lot for highest class camera and lenses, half to whole plate, all good condition; owner going abroad.—Russell, Clarkhouse Road, Sheffield.

AMATEUR PHOTOGRAPHER, from commencement to present date, clean and perfect, two first vols. bound half roan, 30s.; good violoncello and bow, 70s.; sell, or exchange for good hand-camera.—3, Walpole Street, Wolverhampton.

For sale, a 4-wick Optimus lamp for lantern, new; 10s. (by Ferkin, Son, and Raymen).—Apply, Dawes, 9, Clerkenwell Green.

Quadrant tricycle spring camera carrier, fits Humber pillar, used three times; 20s.; cost 30s.; takes whole-plate or larger.—Rev. T. Vyvyan, Charterhouse, Godalming.

Splendid full-size violin for sale, beautiful, clear, ringing tone, perfect preservation; also fully baizer-lined case and excellent silver-mounted bow; 20s. worth of unsold music given in free; immediate purchaser shall have whole lot for 15s.; write at once.—Mrs. Graham, College Buildings, Ipswich.

Lantern microscope, three powers, suitable for photo-

micrography, as new, cheap; 40s.—P., 81, Surrey Terrace, Norwich.

Lantern micro, 12 objectives, live box, objective, and adapters; price 35s.; cost £3 10s.—Shepherd, 260A, Fulham Road, London.

WANTED.

Cameras, Lenses, etc.—Watson's half or whole plate Acme or Premier, brass or aluminium bound preferred, also lenses by Wray, Suter, or Taylor and Hobson, for cash.—Lessor, 11, Rammoor Park Road, Sheffield.

Gem camera, lenses, and slide, complete.—Bryant, Gaunt Street, Lincoln.

To wholesale opticians. Wanted, good half-plate camera, with R.R. lens, in exchange for spectacles.—Rowley, Park Street South, Wolverhampton.

Half-plate Watson's Light Tourist camera, Wray's R.R. lens, Thornton-Pickard shutter, canvas bag, no tripod; must pass the Editor; no dealers.—No. 229, AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.

Hand-Cameras, etc.—Kodak No. 2, in good order.—Murray, 44, Manchester Street, W.

No. 2 Kodak Junior, perfect condition, cheap.—Spurrell, 6, Tavistock Place, Plymouth.

Lanterns.—Enlarging lantern, 5 in. condenser, must be suitable for occasional lantern exhibitions, and cheap.—Jno. Wilson, Clernam, Belfast.

A Hume's Cantilever or other superior enlarging lantern, with 8 in. condenser, with or without lens, for gas preferred, in perfect working order; particulars by letter.—Kelly, Spanish Close, Wandsworth Common.

Lenses, etc.—Lens, half or full plate; by Ross or Lancaster.—Miss Thomas, Uzmaston, Haverfordwest.

Taylor and Hobson's or other good maker's 5 in. hand-camera lens, Iris diaphragm preferred.—No. 227, AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.

Whole-plate lens, 7 $\frac{1}{2}$ to 8 in. focus, by best maker, new condition, Ross' preferred.—No. 223, AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.

Negatives.—Good negatives, English and foreign places of interest, loan or purchase.—William Randall, Brampton, Chesterfield.

Sets.—Thoroughly good half-plate set, together or separate.—Samuel Kendon, Goudhurst, Kent.

Sundries.—Gasmeter, to contain not less than 10 ft.—Price and particulars to A. T., 11, West Beach, Lytham, Lancashire.

M. R. VANDERWEYDE, 182, Regent Street, W., is desirous to obtain the services of a gentleman thoroughly qualified to undertake the post of Business Manager. He must possess considerable experience of the West End Photographic trade, be of gentlemanly address, and must also be a good salesman.—Apply by letter only in first instance.

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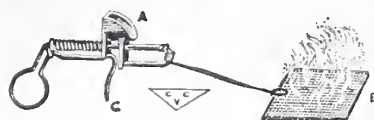
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The only book published that gives complete instructions as to how to make lantern slides, purchase and work the optical lantern.

ART PHOTOGRAPHY. By H. P. ROBINSON. 1s.; cloth, 1s. 3d.
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This is a most delightful book, from which any number of good things may be learnt. The Chapters on the application of the ELECTRIC LIGHT to photography are most interesting and instructive.

NOTE.—Any Photographic Publication can be supplied by Messrs. HAZELL, WATSON, & VINEY, LD., and a full list of books upon Photography will be sent upon application, London: HAZELL, WATSON, & VINEY, LD., 1, Creed Lane, E.C.

PICTURE MAKING BY PHOTOGRAPHY. By H. P. ROBINSON. Cloth, 2s. 6d.

Is a book for the art student to study carefully. The examples given will help him materially to make pictures.

EXPERIMENTAL PHOTOGRAPHY. By CLEMENT LEAPER, F.C.S. 1s.; cloth, 1s. 3d.

This book is a guide for the beginner, and traces the whole course of work for any one taking up photography. It should be the constant companion of the Amateur Photographer.

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This book contains many valuable articles upon apparatus, contributed to the *Amateur Photographer* competitive papers, and which were awarded prizes.

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A very handy book on developing, which should be read by all; it also contains an article upon the use of Eikonogen. Mr. Clark's successful photographic work should induce many to acquire a knowledge of how it's done.

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A very useful little pamphlet, giving the most complete instructions as to what kit to take, how to use it, and other useful "tips" for the touring photographer.

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"AMATEUR PHOTOGRAPHER" MONDAY EVENINGS

November 23rd.—Demonstration on "Lantern Slide Making," by E. J. Wall; and Exhibition of Monthly Competition Lantern Slides.

Doors open 7.30 p.m., commence 8 p.m. Tickets on application to the Editor, 1, Creed Lane, London, E.C.

The AMATEUR PHOTOGRAPHER

Telephone No. 1645
Telegraphic Address: VINEY, LONDON

Office: 1, Creed Lane, Ludgate Hill, London, E.C.

No. 373. Vol. XIV.]

FRIDAY, NOVEMBER 27, 1891.

[PRICE TWOPENCE.]

OUR VIEWS.

"To hold as 'twere the mirror up to nature,"—*Shakespeare*.

OUR VIEWS.—AMATEUR PHOTOGRAPHER "Monday Evening" and Seventh Monthly Lantern-Slide Competition; List of Awards—Lantern Work—The AMATEUR PHOTOGRAPHER Prize Slides Exhibition (Louth)—Sheffield Lantern Exhibition—Photographic Club (Durban)—Cleveland Lantern Exhibition—Wakefield Photographic Society—Photographic Societies' Work—Selby Photographic Society—Photographic Survey of Staffordshire.

LEADER.—Copying Pictures and Coloured Objects.

ILLUSTRATION.—"A Breezy Afternoon," by T. Glazebrook.

LETTERS TO THE EDITOR.—Durban Amateur Photographic Club (T. Carlyle Mitchell)—Ladies' Photographic Club (K. Griffith)—Keeping Properties of Plates (C. W. Whistler)—Weights and Scales (A. R. F. E.)—Geological Photographs (F. E. Currey)—A Plea for Common Sense (A. Landscape Photographer)—Lenses (C. Hetton Lewis).

ARTICLES.—Photographic Procedure, illustrated (Wall)—Instantaneous Photography (W. Jerome Harrison)—The Lantern, and How to Use It (C. Goodwin Norton).

NOTES, ETC.—Quarterly Examinations in Photography—A Model Catalogue (Gutz)—Sutton Process Syndicate, Ltd.—Morgan and Kidd's Works at Richmond—Finsbury Technical College (Opening Address).

SOCIETIES' MEETINGS.—Ashton-under-Lyne—Brehin—Brixton and Clapham—Cambridge—Cardiff—Coventry and Midland—Croydon—Devon and Cornwall—Derby—East London—Faversham—Glasgow and West of Scotland—Glasgow—Greenock Camera Club—Herefordshire—Holborn—Lewisham—North London—North Middlesex—North Surrey—Oxford—Richmond—South London—Spenn Valley—Sutton—Wakefield—West Kent—Wigan—Woolwich and District.

EDITORIAL DEPARTMENT.—All Literary Contributions, Queries and Answers, Photographs for Competition or Criticism, Books or apparatus for Notice or Review are to be addressed to the EDITOR, AMATEUR PHOTOGRAPHER, 1, CREED LANE, LUDGATE HILL, LONDON, E.C. (All Communications should reach the Editor on Tuesday.)

TERMS OF SUBSCRIPTION—

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POSTAL UNION " " 6s. 6d. " " 13s. 0d.
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TRADE ADVERTISEMENTS are received up to Tuesday morning.

PUBLISHING DEPARTMENT.—All letters containing Subscriptions, Orders Remittances, SALE AND EXCHANGE Advertisements, or other business matters for the AMATEUR PHOTOGRAPHER are to be addressed to the Publishers, HAZELL, WATSON, AND VINEY, LD., 1, CREED LANE, LUDGATE HILL, LONDON, E.C. (SALE AND EXCHANGE Advertisements, at the charge of Three Words for One Penny, can be received as late as WEDNESDAY MORNING.)

"Amateur Photographer" "Holidays with the Camera" Competition (Second Year)—Prizes: Gold, Silver, and Bronze Medals, and Certificates; with special prizes of "Niepce" or progressive medals for past prize-winners. In all, *twelve prizes* will be placed at the disposal of the judges.

SUBJECTS.—All photographs are eligible that have been taken during the "Holidays," but must be landscape or sea pieces, with or without figures, views of town, photographs of cathedrals, churches, public buildings, etc., but not *portraiture, figure study* of pictures which could be classed as "Photographs at Home."

DATE.—All photographs must be received on or before the 31st of December, 1891.

RULES, CONDITIONS, AND ENTRY FORMS will be forwarded on receipt of stamped addressed envelope. The application should be addressed, "HOLIDAYS WITH THE CAMERA," Editor, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C.

"Amateur Photographer" Monthly Competition No. 31—"SEASCAPE AND RIVER SCENERY." Latest day, DECEMBER 1ST.—Prizes: Silver and Bronze Medals, with Ribbon and Clasps. One print only to be sent in. Entry forms, etc., on receipt of stamped envelope. Address: Editor, AMATEUR PHOTOGRAPHER, 1, Creed Lane, E.C.

Members of the Editing Staff are "At Home" on Monday afternoons from Two till Five o'clock, and they will gladly give advice upon all photographic matters.

THE fifth AMATEUR PHOTOGRAPHER "Monday Evening" was held on the 23rd inst., when Mr. E. J. Wall gave a practical demonstration in "Lantern-Slide Making." There was a very large attendance, so much so that one ticket-holder writes as follows:—"I have just returned from an attempt to get into your very instructive lantern demonstration. Why not hold these meetings in a larger room and make some small charge for entry? I arrived five minutes before the hour named, and could only see enough through people's heads to convince me that such instructive lessons are well worth a larger and more convenient place, and would certainly be gladly paid for by those whom you would wish to see. There is nothing of the kind in London so instructive to beginners." This letter shall have our very serious attention.

In addition to "Lantern-Slide Making," the slides contributed to the AMATEUR PHOTOGRAPHER Seventh Monthly Competition, "Architecture, Interior and Exterior," were exhibited, and the awards made as follows:—

First Prize (Silver Medal).

WALLACE THOMPSON Oldham.

Second Prize (Bronze Medal).

F. W. PLEWS Leeds.

Third Prize (Certificate).

W. RICE London.

Mr. Thompson's work is done on England's chloride plates developed with hydroquinone, the slide being made by reduction from half-plate negatives. The subjects are "Exeter Cathedral, Nave looking East," and "Moreton Old Hall, the Banqueting Chamber." In both slides there is a wonderful uniformity of tone, clearness in the high lights, and detail in the shadows. Mr. Plews is advancing to the front rank, and sends two good slides in "The West Door, York Minster," and "Duke of Devonshire's Shooting Box, Bolton Abbey." These were both made by contact, the first on an Ilford Alpha plate, developed with hydroquinone, and the second on a Thomas plate developed with pyro and ammonia. They are in every sense thoroughly representative of good work. Mr. Rice, to whom was awarded the third prize, sends a view of "The Old Water Gate, Thames Embankment"—which, we may add, is at the bottom of the street in which the AMATEUR PHOTOGRAPHER was born, Buckingham Street, Strand—made by contact

on an Edwards plate developed with hydroquinone. The other slide, "Stanhope Monument, Westminster Abbey," is on a Fry plate, by contact, also developed with hydroquinone. They are both very perfect examples.

The remaining slides entered for the competition have been classed in the following order:—

CLASS I.		CLASS II.		CLASS III.		CLASS IV.	
Shaw, Jas.	Atkins, Dr. Ringrose	Mawson, T. O.	Payne, A. H.	Branthwaite, R. W.		Appleby, E. J.	
Betley, Fred	Dart, W. B.	Ellsworth, W. S.	Cunningham, T. A.	Camp, Sparham		Roberts, E. T.	
Brook, T. Morley	Brightman, C. A.	Perkins, Rev. T.	Bradburn, S. J.			Wilson, Mrs.	
Taverner, W.	McEwen, W.	Furniss, W. T.	Bridger, H. L.			Hildyard, G. W.	
Stabb, John	Swift, C. N.	Levett, F. W.	Firth, G. F.			Lyddon, F. S.	
Miskin, L. J.	Pickard, C. R. H.	Birkbeck, J. T.				Eastgate, C. E.	
Tomkinson, W.	Weir, W. R.					Croker Haughton, C.	
	Bois, W. H.						
	Heaton, H. J.						
	Farthing, W. J.						
	Boville, G. J.						
	Thomas, W.						

The following is an analysis of the plates used:—

Thomas	35	Fry	7	Hlford	2
Hlford Special ...	15	Hlford Alpha	5	Edwards	1
Mawson	13	England	4	(Not named)	2

The next Monthly Lantern Slide Competition will be for "Figure Studies and Humorous Pictures," and we hope to have a large number of entries; these must be sent in on or before the 17th of December.

WE are always pleased to chronicle any advance in work done with the optical lantern, and notice that Mr. Judson Banner (Member of the National Society of Lanternists) is giving a series of lantern lectures at Richmond Hall, Forest Gate, which are to include "Rambles in the South of Essex," "The Story of West Ham and its Surroundings," "Scenes and Incidents in Scripture Lands." These lantern lectures are enlivened by vocal and instrumental music, and we have no doubt they afford most pleasant evenings for the people.

THE AMATEUR PHOTOGRAPHER 1891 Prize Slides were successfully exhibited to a large audience at the Town Hall, Louth, last Friday. Alderman Longbottom, the Mayor, presided. We had the very great pleasure of presenting four AMATEUR PHOTOGRAPHER Medals, two to Mrs. S. Francis Clarke, one to Mr. S. Francis Clarke, and one to Mr. Herbert C. Bentley. The Louth District Photographic Society numbers some sixty members, but already many are doing excellent work, and even to find three AMATEUR PHOTOGRAPHER medallists in so young a Society is indeed gratifying.

It is very encouraging to find that the three photographic societies in Sheffield, viz., the Photographic Society, Camera Club, and Optical Lantern Society, have joined their forces to give us a hearty reception in January. At a meeting of the representatives of the three societies held on the 16th inst., it was arranged that the AMATEUR PHOTOGRAPHER 1891 Prize Slides should be shown in the Montgomery Hall, Surrey Street, which has seating accommodation for 1,000 people, on the 20th of January. The Slides will be personally conducted by us. Tickets will be issued at a uniform price of sixpence, and the gross proceeds will be handed over to the Royal Lifeboat Institution. Members will pay for their tickets, and we understand that the costs and expenses will be defrayed in equal proportions by the three societies. The Hon. Secretary of either society will forward tickets on receipt of stamps. Mr. Edward Beck is acting Hon. Secretary to the Joint Committee. His address is "Fairmont," Shoreham Street, Sheffield, and we are sure

he will gladly give further information. The Committee are quite sanguine as to filling the hall, but will, of course, be delighted to welcome all those interested in photography residing in or near Sheffield.

NEWS comes to us this mail of the establishment of an amateur photographic club at Durban, South Africa, and a request for a set of our Monthly Competition prints. These we shall send out at an early date. We note that the club has a thoroughly practical series of papers and demonstrations for the session 1891-2, and has arranged to have competitions, excursions, and at the end of the session an exhibition of members' work. It is very gratifying to see such interest being taken in photography in South Africa; it was only a week or two since that we noted the Port Elizabeth Society, and a little time before the Grahams-town Society. No doubt we shall very soon hear of other photographic societies being started.

WE notice that, in conjunction with the Cleveland Camera Club, Dr. Stainthorpe will exhibit over 120 slides, and give a descriptive lecture on "A Holiday in Holland." The club is doing good and active work in photography, both in the subjects discussed at the meetings, and the monthly competitions.

THE members of the Wakefield Photographic Society have, upon the retirement of Messrs. H. A. Halliwell and G. F. Firth, elected Mr. W. Townhend, of 21, King Street, Wakefield, their Hon. Secretary. The society has now some forty-seven members. A capital syllabus has been prepared. The President and Vice-Presidents are active members; during the past summer they have regularly joined in the excursions, and attended the meetings. The society has excellent quarters at the New Technical and Art Schools, and they also have the use of a secondary room at the Mechanics' Institution.

OUR remarks upon the working of photographic societies have had a most salutary effect. We have this month more "official announcement" cards returned properly filled up than we have had for many months, and December promises to be a busy month with many societies.

A PHOTOGRAPHIC SOCIETY has just been formed at Selby. Mr. W. N. Cheesman, of the Crescent, Selby, will gladly give further particulars.

WE noted in our issue of Nov. 6th, p. 330, that several prominent workers were endeavouring to form a society for the purpose of making a "Photographic Survey of the County of Staffordshire." An adjourned meeting was held on the 23rd inst. at the Stoke Free Library, Mr. C. Lynam in the chair. The Naturalists' Field Club expressed their willingness to support the movement, and it was finally decided that a society should be formed under the name of "The Staffordshire Photographic Survey Society," and it was proposed to publish at certain intervals a volume of their work, consisting of photographic illustrations, with notes appended. It is proposed to hold meetings at Stafford and Wolverhampton to explain the objects of the society, and to obtain members from the whole of the county. Three vice-presidents are to be elected, one for North, one Mid, and one South Staffordshire. Mr. Alfred J. Caddie, Chief Librarian and Curator, Free Library and Museum, Stoke-on-Trent, will be pleased to give any information and receive the names of intending members.

COPYING PICTURES AND COLOURED OBJECTS.

DURING the winter months, when to some extent the opportunities of outdoor work are less frequent than in the summer, we may well turn our attention to copying pictures, etc., as in this work we are to some extent independent of daylight.

To obtain the best results we must provide ourselves with colour-sensitive or orthochromatic plates and one or two yellow screens. These may be obtained commercially,

trouble. As far as possible, the lighting of the picture should be from the front. Any side light throws into relief the inequalities of paint and canvas. During the past summer we were asked by an artist to copy a panel sketch of a Capri maiden bearing on her head one of the water jars of the country, and, mindful of the last statement as to side lighting, we were extremely careful to light it only from the front, and by the use of a deep yellow screen and a long exposure we were enabled to obtain a fine reproduction, which printed in warm tones on bromide paper was ex-

"AMATEUR PHOTOGRAPHER" COMPETITION PICTURES.



A BREEZY AFTERNOON.

By T. GLAZEBROOK.

both plates and screens, and the latter of four different tints, at about 3s. for three square inches. The plates should be of the slow or medium rapidity, the colour sensitivity being as a rule greater than in the more rapid kinds. With regard to the use of the screens, it must be noted that as we propose to use gas or lamp light, which being yellow in itself has the same effect as a yellow screen, it is not necessary to use so deep-coloured a screen as when daylight is used.

If the picture is too large, or it is inconvenient to remove it from the wall, it may be copied as it hangs without much

tremely pleasing to us; but on showing it to the artist, the first remark was, "What have you done with the brush marks?" These, in fact, were almost invisible, save in one or two places where they only showed faintly. As an answer to this question we entered into an exposition of the reasons and the method of working, the effect of which we must confess to have been a little proud of. But our artist friend replied, "I don't care a bit about all that; it may be correct photographically, but as an artist I like to see the brush marks." So we had to start over again, and by side lighting throw up the brush marks. Probably, however,

we shall require the photograph of a picture for our own pleasure and not for any artist, and therefore we choose the front lighting.

The choice of the particular tint of screen must be influenced by the character of the painting. If there is a considerable quantity of blue or violet, then a fairly deep screen may be used. If, too, there is a good deal of red, it may be advisable to use the deepest screen, and give a very long exposure, and then, removing the screen, and giving a short exposure, to allow the more actinic colours to act on the film. It is a little difficult to find what the correct supplementary exposure should be, and it is therefore preferable to use a lighter screen and give an exposure through that only.

The character of the pigment exercises great influence on the result and the exposure. Thus an oil painting requires a longer exposure, as a rule, the older it is, and also a longer exposure than a water-colour drawing, and these longer than a crayon sketch. An oil painting is, as a rule, far more difficult to reproduce in correct visual gradation than a water-colour. In this, as in every branch of photography, experience is alone the guide which will enable us to obtain a good reproduction.

A very good lesson for any worker in copying pictures is to copy one picture several times, using each time a different screen, and giving different exposures. A print from each negative will then, when examined side by side, and comparing them with the original, at once prove the best screen and correct exposure. More may thus be learnt from two or three hours' work than any amount of reading. A careful comparison of the prints and the original will teach us a great deal of the action of certain pigments, and by varying the illuminant, that is to say, using sunlight, gaslight, and daylight, we may easily find out more still.

Coloured objects, such as vases, carpets, tapestry, etc., will again furnish us with another useful lesson, and any of our readers anxious to extend their knowledge in this direction should try and reproduce correctly pieces of silk, velvet, cotton, and wool, all matched as nearly as possible by a practised eye, as regards colour, and probably they will be astonished at the photographic result when copied at the same time.

We shall now proceed to explain what we have stated in our last paragraph. If we examine some silk under a microscope it presents the appearance almost of little tubes of coloured glass. Wool, when lighted by white light, is decidedly less luminous than silk, for the light penetrates into the body of the wool more, and there is less white light reflected from its surface. Silk colours are far more luminous than wool colours. Cotton fibres reflect still more white light even than silk, and the comparatively poor transparency of the fibre makes the colours poor and tame. Therefore we may assume that wool requires the longest exposure, then silk, and then cotton.

In the case of carpets, chenille, and velvet, or all materials in which the ends instead of the sides of the fibres are presented to the incident light, there is little or no white light reflected from their surfaces, and they require proportionately longer exposures. In this case, too, silk velvet requires a longer exposure than cotton velvet or

velveteen, and the difference is greater the older the materials are.

Letters to the Editor.

DURBAN AMATEUR PHOTOGRAPHIC CLUB.

SIR,—I have read the AMATEUR PHOTOGRAPHER for some years, and know from it the interest you take in the efforts of amateurs in the more distant parts of the empire.

I am therefore encouraged to send you the rules and syllabus of a society which we have just successfully started in this town. Durban has a European population of about 12,000 (and as many more natives, Indians, etc.), and I found that there were a good many young men struggling with the usual difficulties of beginners. A society had been formed two or three years before, but had died in a very short time, as it had no local habitation in the shape of meeting place or dark-room, no regular course of lessons or demonstrations, and no literature provided for the use of members. All these requirements we have been able to provide, and have secured an active membership of over thirty. The bulk of them are beginners, and to these especially the course of demonstrations given gratuitously by a friendly professional (Mr. C. J. Knaggs) will be very valuable. Other demonstrations by the more experienced members are being arranged for.

I need scarcely say that the AMATEUR PHOTOGRAPHER is to be found on the club table, and that we have ordered the *Reporter* and *Quarterly*, as well as most of the numbers of the Amateur Photographer's Library.

My special object in writing now is to ask whether we might arrange to have from you some of the Monthly Competition prints, and if so on what terms. For our purpose it would matter little whether the prints were recent or not, although we should like to see Celerotype, Kallitype, etc. We are anxious, chiefly, to see what work is done by fellow amateurs in England, and to have a standard for comparison. I am sure that, judging from the reproductions I have seen in "Holiday Work," etc., they would stir emulation among our members.

I should like to add that we shall always be glad to see any of your friends or subscribers, and to give them what facilities and advice we can.—Yours, etc.,

T. CARLYLE MITCHELL.

Durban, Natal, South Africa, Oct. 27th, 1891.

P.S.—In the event of your being able to lend us any of your competition photographs, I should, of course, hold myself liable to you for their safe return.

* * * *

LADIES' PHOTOGRAPHIC CLUB.

SIR,—Should you succeed in starting the proposed photographic club for ladies, I shall be most happy to join.

Living so far from town, I would not hope to attend any lectures, but the rooms would, I am sure, be of great service to members passing through London.—Yours, etc.,

K. GRIFFITH.

* * * *

KEEPING PROPERTIES OF PLATES.

SIR,—With regard to your note on the keeping properties of dry plates you may very probably have many correspondents. However, as an extreme case may be of service in fixing the matter, at all events approximately, it may be worth while to say that last autumn I used, and successfully, some 10 by 12 Wratten and Wainwright's instantaneous which were bought in 1880, and had been unopened since. I had considerable doubts as to their utility, as they had been kept with no special precautions at all, but, using them as if new, found them perfect, and apparently hardly slower than fresh plates (Thomas E. R.)

EXHIBITIONS.

SOCIETY.	Place.	Open.	Close.	Last date for sending in.	Secretary.
Tunbridge Wells ...	Tunbridge Wells.	Nov 25.	Nov. 28.	Nov. 20.	Joseph Chamberlain, 14, Calverley Park Gardens, Tunbridge Wells.
Art Gallery Committee ...	Leeds.	Dec. 7.	Jan. 9.	Nov. 27.	Geo. Birkett, Municipal Art Gallery, Leeds.

used at the same time. The only points showing any signs of deterioration were the edges in contact with the stiff paper separators—a not unusual thing with the freshest plates.

The date is certain, as the friend who bought them (a former gold medalist of the P. S. G. B. in wet-plate days) had done no photography whatever from that time to the present, when I induced him to overhaul his six cameras, choose a medium-sized one, and come out. These were the only plates he had, and we naturally expected them to be useless. The half-dozen were all good; the four he exposed quite equal to the first two I experimented on, though, as he knew really nothing of dry-plate work, the results were hardly so satisfactory as the plates.

On the other hand, a friend brought me a good many 5 by 4 plates and films (Seed's) from Guatemala, exposed just before leaving the country, and they were absolutely spoilt by the damp of that climate, developing into a remarkable series of damp-spots and stellar aggregations of silver, specially the films. These were not six months old, and were brought home in a special tin box. He tells me that unless he uses his plates *at once* the hot-damp destroys them utterly, and has come to the conclusion that in such a climate the wet-plate is the only possibility.—Yours very truly,

C. W. WHISTLER.

Louth, November 20th, 1891.

WEIGHTS AND SCALES.

SIR,—If W. H. Ellis had enquired at any weight and scale maker's (there are several in the City) he would have been supplied with what he wanted; or he could, as most people do, borrow the kitchen scales.

Doubting his inability to obtain a set at any photographic materials' dealer, I looked in the first price list I put my hands on—Fallowfield's—and find that he can there purchase a set of brass weights to weigh from $\frac{1}{4}$ oz. up to any desired amount.

I have no connection with any photographic material manufacturer or dealer whatever, but it is from a desire to see fair play that I have been induced to write this, and am, yours, etc.,

November 21st, 1891.

A. R. F. E.

GEOLOGICAL PHOTOGRAPHS.

SIR,—In reference to your paragraph respecting geological photographs, I hope the Committee of the British Association will act on your suggestions in supplying clear directions of the work required, and that these will be published in the AMATEUR PHOTOGRAPHER.

In my own district I would be happy to aid the work which the Association has in hand as far as in my power, and so would no doubt many others in their several localities.—I am, yours, etc.,

F. E. CURREY.

Lismore, Ireland, November 23rd, 1891.

A PLEA FOR COMMON SENSE.

SIR,—I confess to having felt some curiosity on reading that paragraph of Mr. Sawyer's letter in your issue of the 13th inst., in which he referred to certain communications he had received on the subject of his paper "A Plea for Composition in Photography." I was therefore glad to see in your last issue a letter from one of Mr. Sawyer's admirers, which may perhaps be taken as typical of the other communications. Mr. Davis quite agrees with Mr. Sawyer's opinion of art critics, and is even harder upon them than Mr. Sawyer himself. Their ignorance or their mendacity must be great indeed if Mr. Davis' statement is correct that "every picture possesses some merit." On reading this I began to hope that he might find "some merit" in those "misty mornings" and "foggy evenings" which I have attempted to defend, but here I was mistaken, for a little further on I find an unkind allusion to "misty mornings" and "green-scummed posts." Evidently my favourite subjects are the inevitable "exceptions that prove the rule." Besides this, Mr. Davis tells us that "landscape pure and simple is but a mere transcript of the objects of natural history," and that "the Royal Academy refuses admission to any work which is a mere transcript of the objects of natural history." Does Mr. Davis intend us to infer from this that "the Royal Academy" does not admit within its walls paintings of "landscape pure and simple"? It seems so. Mr. Davis will not, I hope, think me too presumptuous if I enquire on what authority he makes the above statement with regard to "the Royal Academy." I have always imagined that such pictures as "A

Sunset Calm," "Bolton Abbey," and "The Isles of Loch Lomond," in the last Academy exhibition, were representations of "landscape pure and simple," but according to Mr. Davis they can be nothing of the kind. After this display of my ignorance I feel thankful that I am able to conceal my identity "behind the cover of a nom de plume."—Yours, etc.,

A LANDSCAPE PHOTOGRAPHER.

LENSES.

SIR,—I am reading with much interest Mr. E. J. Wall's articles on "Photographic Procedure," and trust I shall not be intruding if I venture to offer a few remarks upon one or two matters he has touched upon. Regarding the difficulty of estimating the polishing of lens surfaces, which is referred to on page 318, paragraph 8, I think the following test is extremely simple and also perfectly reliable. "Hold the lens up to a strong light, such as a naked gas flame, some 4 ft. off and about 18 in. from the eyes. Find the position that allows the full glare of light to be seen coming through the lens, then hold the lens to one side slightly till the blaze disappears, and by holding it in that position the state of the polishing is seen at once. The lens will look as if sprinkled with fine dust, and a badly polished lens will show a surface quite grey as with dust." It should be borne in mind that *no* photographic lens is *perfectly* polished. It is not necessary to exceed a certain stage, but a lens should not look grey.

In the current number of the AMATEUR PHOTOGRAPHER, containing description of various methods of estimating the equivalent focal length, there seems to be a little ambiguity in paragraph 3, page 375, second column, regarding the point of measurement of focal length of single lenses, the question turning upon which is to be considered the "front surface" of single lenses. The ordinary single lens with its convex side next the focussing screen, affords better measurement when reckoning the distance from convex surface to screen. Even this measure will slightly exceed the proper length, but it is, as Mr. Wall says, near enough for ordinary work.

Method No. 5 is, I think, the simplest and best for anyone who is not expert, but there seems to be an error in the example, as the square of proportional number of the image plus 1 is given as 49, instead of 37, which, if I am right, would bring the focal length of the lens in the example to over 10 in. I have no doubt Mr. Wall has found out the mistake ere this. Such errors are so easily printed accidentally, as the omission of the word "screen" on page 376, second column, sixth line from bottom, will show, "foot rule and focussing screen" being intended.—I am, yours, etc.,

C. HETHTON LEWIS.

St. Leonards-on-Sea, November 24th, 1891.



Mr. C. Hethton Lewis writes us:—"May I be allowed to mention that I have removed from Brighton to Clouesley Road, St. Leonards-on-Sea, where I intend to resume my plan of giving lessons in photography, as before. Letters are still frequently being forwarded me from Brighton, and as each one costs extra postage on arrival here, I hope the change of address given will be kindly noted by those of your readers I have often corresponded with."

Finsbury Technical College.—On the 17th inst. the President, Prof. Meldola, F.R.S., delivered the presidential address. His subject was M. Lippmann's researches in colour photography. Having dwelt some time on the history of colour photography, which he traced back to 1810, he went on to show that the iridescence of mother-of-pearl, the crystals of potassium chlorate and of like substances depended on the optical principle of "interference," caused by their being built up in thin layers separated by air. He explained that M. Lippmann, by using a transparent AgCl film backed by a reflecting surface of mercury, obtained "interference" in the thickness of the film when the spectrum image was thrown upon it. The plate was first exposed through a screen containing helianthine, which cuts off green, blue, and violet rays. A second screen containing potassium dichromate solution is then used; this cuts off only blue and violet, and a few seconds' exposure without a screen gives the blue and violet rays time to impress themselves. When the plate is developed, the film is obtained full of layers of reduced silver, and when viewed by reflected light only, the colours of the spectrum are again obtained. Great as is the value of M. Lippmann's discovery, the problem of colour photography is not yet solved. M. Lippmann uses collodion plates sensitised with AgCl in place of AgBr, used dry and placed with the glass side towards the lens.

Photographic Procedure.

By E. J. WALL,

Author of the "Dictionary of Photography."

SECTION II.—THE LENS.

Field of View.—The field of a lens is the circle of light given by the lens, the diameter of which is usually expressed in degrees, but, as we have already noted, is far better expressed in terms of the focal length. The extent of surface which a lens will cover is independent of the diameter of the diaphragm aperture, but the area of sharp focus is in proportion to the said diameter. (See also Angle of View.)

Fixed Focus.—This term has become so general of late that one writer actually says, "With regard to fixed-focus lenses I am quite ignorant of the principle on which they are constructed, but it seems to me a most extraordinary thing, if they can be constructed at all, why any other kind should be made. With the lens on my—everything from three feet to the extremest distance is in the sharpest possible focus; and this being so, it is most amazing that makers should go on manufacturing lenses that require re-focussing for every picture, which is in all cases an unmitigated nuisance and, in the case of instantaneous pictures, the cause of the loss of more than half the chances offered, and of half of the pictures actually taken being out of focus." It is quite possible that there are many in the same state of amazement as the above writer, who may, for all I know, still be in the same state; therefore to him and to others like him it may be of interest to learn that every lens has a fixed focus and that there is no lens which is manufactured which is not quite as much a fixed-focus lens as the particular lens which called forth the above remarks, and that, moreover, there never has been a fixed-focus lens yet made and never will be. My readers will probably say that I have been dining, or something equally flattering, to state within a few lines that every lens is a fixed-focus lens, yet that such a lens never has and never will be made. But what I mean to state is this—a fixed focus is a theoretical impossibility, but with every lens there is a point beyond which objects are in sufficient sharpness to satisfy our requirements as to definition, because when the image of a point is less than the $\frac{1}{150}$ th part of an inch in diameter, then the eye perceives the image as a point sharply defined, and this has given rise to the term in question.

Several rules are in existence for finding out the nearest point in focus, but one of the best is that by Mr. W. Cheyney, in the "Journal of the Franklin Institute," which is as follows:—Multiply the diameter of the aperture of a lens by the equivalent focus thereof, divide the product by the greatest allowable error, and to the quotient add the equivalent focus. The sum will be the distance of an object upon which the lens should be accurately focussed in order that all objects beyond a point one-half of the above distances shall be apparently in focus. Thus—

Let f = the equivalent focus.

a = the diameter of aperture.

e = the greatest allowable error.

Then d = the distance of an object, upon which if the lens be accurately focussed, all objects beyond $d/2$ will apparently be in focus.

Or,

$$\frac{a \times f}{e} + f = d, \text{ then } d \div 2 = \text{point in focus.}$$

Examples: Thus with a lens of 8 in. focus and $f/8$ diaphragm we have

$$\frac{1 \times 8}{\frac{1}{150}} + 8 = d \approx 2,008 \text{ in.} = 167 \text{ ft. 4 in.}$$

Then $d \div 2$, or 167 ft. 4 in. $\div 2 = 83 \text{ ft. 8 in.}$

Again, if we use a lens of 4 in. focus and $f/16$ aperture we have

$$\frac{\frac{1}{4} \times 4}{\frac{1}{320}} + 4 = d = 254 \text{ in.} = 21 \text{ ft. 2 in.}$$

Then $d \div 2$ or 21 ft. 2 in. = 10 ft. 7 in.

Mr. Cheyney gives the following table tested by various rectilinear, wide angle, and single landscape lenses:—

Equiv. Focus.	Aperture.	Distance of Object Focussed upon.	All Objects in Focus Beyond.
		Ft. in.	Ft. in.
2	$f/8$	10 7	5 3
2	$f/11.31$	7 11	3 11
2	$f/16$	5 4	2 8
3	$f/8$	23 8	11 10
3	$f/11.31$	17 10	8 11
3	$f/16$	11 11	5 11
4	$f/8$	42 0	21 0
4	$f/11.31$	31 3	15 7
4	$f/16$	21 2	10 7
5	$f/8$	65 6	32 9
5	$f/11.31$	49 3	24 7
5	$f/16$	32 11	16 5
6	$f/8$	94 3	47 1
6	$f/11.31$	70 9	35 4
6	$f/16$	47 4	23 8
7	$f/8$	126 1	63 0
7	$f/11.31$	94 8	47 4
7	$f/16$	63 4	31 8
8	$f/8$	167 4	83 8
8	$f/11.31$	125 8	62 10
8	$f/16$	84 0	42 0

I have struck out fractions of an inch as unnecessary. On reading through the above table many of my readers will at once exclaim, "If this is right, Messrs. Blank and Blank, lens makers or lens sellers, are wrong when they state that all objects beyond so many feet will be in focus with their lens; their distances are not nearly so much as the above table. Take, for instance, Mr. Dealer's special hand-camera; this has a 5 in. focus lens, and works at $f/8$, and yet he states that everything beyond 15 ft. is in focus; by the above table everything beyond 32 ft. is in focus." To reconcile these seeming paradoxes is not difficult, as it will be noted that Mr. Cheyney takes $\frac{1}{150}$ of an inch as the greatest permissible error; if, however, we take $\frac{1}{100}$ of an inch as the permissible error we get totally different results, as seen by working out his examples:—

$$\frac{1 \times 8}{\frac{1}{100}} + 8 = 808 \text{ in.} = 67.4 \text{ ft.}$$

$$\text{Then } 67.4 \div 2 = 33 \text{ ft. 8 in.}$$

$$\text{And } \frac{\frac{1}{4} \times 4}{\frac{1}{100}} + 4 = 104 = 8 \text{ ft. 8 in.}$$

$$\text{Then } 8 \text{ ft. 8 in. } \div 2 = 4 \text{ ft. 4 in.}$$

Taking $\frac{1}{100}$ of an inch as the permissible error, I have worked out from Mr. Cheyney's rule, the following table which may be useful:—

POINT BEYOND WHICH ALL OBJECTS WILL BE IN FOCUS.

EQUIVALENT FOCUS.	APERTURES.			
	$f/8$.	$f/11.31$.	$f/16$.	$f/22$.
3 inches ...	4 ft. 9 in.	3 ft. 6 in.	2 ft. 6 in.	1 ft. 9 in.
3½ " ...	6 " 6 "	4 " 9 "	3 " 3 "	2 " 6 "
4 " ...	8 " 6 "	6 " 3 "	4 " 3 "	3 " 3 "
4½ " ...	10 " 9 "	8 " 10 "	5 " 6 "	4 " 6 "
5 " ...	13 " 3 "	9 " 9 "	6 " 6 "	5 " 0 "
5½ " ...	16 " 0 "	11 " 9 "	8 " 0 "	6 " 0 "
6 " ...	19 " 0 "	15 " 0 "	9 " 6 "	7 " 6 "
6½ " ...	22 " 6 "	16 " 6 "	11 " 3 "	8 " 3 "
7 " ...	26 " 0 "	20 " 0 "	13 " 0 "	10 " 0 "

In calculating this table I have disregarded fractions, and put in many cases the nearest convenient distance; thus if the

distance came to 2 ft. $4\frac{1}{2}$ in. I have put 2 ft. 6 in. in place.

In the section devoted to Hand-cameras further notes on this point will be given.

Flare—See Testing the Lens, p. 318.

Ghost.—See Testing the Lens, p. 318.

Landscape Lens.—This term is usually applied to single lenses provided with a diaphragm in front of the lens, typical lenses being figured in figs. 90 and 91.

Single lenses, from the fact of there being only two reflecting surfaces, give more brilliant pictures than doublet lenses, and consequently should be used

as much as possible in preference to the latter. It is true that there is the existent defect of distortion which has been held up as a bugbear against these lenses, but unless the lens is used on a plate larger than that for which it was originally constructed, and any buildings or other

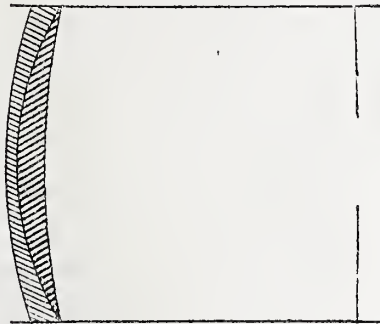


FIG. 90.

straight lines fall close to the margins of the plate, this defect may be totally disregarded when picture-making is the chief aim; when a negative has to be taken for any scientific purpose or for recording the state of preservation or decay of any object in which straight or parallel lines occur, it would be advisable to use the rectilinear or doublet type of lens. In connection with this point, Mr. Traill Taylor, Editor of the *British Journal of Photography*, says:

"A friend the other day brought us for inspection a landscape lens which, he said, possessed the property of taking architectural subjects without noticeable distortion. We found it to be a single achromatic cemented lens of small diameter. With a focus of ten or eleven inches, its diameter was only half an inch, or about equal to that of a threepenny-piece, its form was meniscus, and the stop was within half an inch of the front surface. It had been hitherto mainly used for interiors. It is easy to perceive how such a lens gives a minimum of distortion, and by this term we here mean a curvature of what should be straight lines at a distance from the centre of the picture. As we have frequently said, the condition of rectilinearity is that every ray entering a lens must emerge from it in a direction parallel to that at which it enters. A pinhole in place of a lens fulfils this condition, because none of the rays transmitted through it undergo any refraction at all; the same result is produced by the centre of the lens, the immergent and emergent rays passing through it without undergoing refraction. But no sooner is any other portion of the lens brought into play than we get refraction in an increasing degree in proportion as we recede from the centre. Let us take the case of a lens of any given focus and of large diameter, and having its stop so adjusted (as it ought to be for producing the best effect) as to cause the margin of the picture to be formed by the margin of the lens. Under these conditions the marginal lines of an architectural subject will not be straight, but slightly curved, such curvature being most prominent when the included angle of view is great. Now if the stop is brought closer to the lens, this curvature of the lines is diminished, and goes on so in an increasing degree until—if such a thing were possible—it reached the optical centre of the lens, when all distortion would cease. From this we learn that the smaller the working diameter of the lens the less will be the distortion. Not that it will ever be wholly eliminated, but it may be so minimised as to be inappreciable. But when, in order to secure this advantage, the stop is pushed up closer to the lens, then does the definition

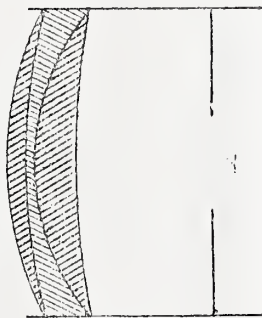


FIG. 91.

rapidly fall off towards the margin of the plate, and the only way to obviate this is to employ a stop having a very small aperture, for in proportion as the effective diameter of the lens is reduced, so must the stop be diminished."

Portrait Lens.—A particular type of lens invented by Petzval, in which special attention has been paid to rapidity; to the sacrifice of many other qualities which are considered essential for other types of lenses; from its large aperture in proportion to its focal length, the portrait lens possesses very little depth of focus, includes a very small angle, but great rapidity. The front combination of a portrait lens may be used with its flat side to the object, that is to say, unscrewed and placed in the position of the back combination, as a single landscape lens, and then has a focal length of about double that of the complete objective, or it may be used *in situ*, provided a very large plate is not required. With full aperture of the entire objective, a portrait lens will only cover sharply a circle the diameter of which is about $f/3$, but with a smaller diaphragm, $f/10$ for instance, the diameter of circle of sharpness is enlarged and becomes $f/2/3$, and with an aperture of $f/20$ the circle becomes equal to f . A portrait lens may be used for landscape or outdoor work, provided a small stop is used, but "flare" or ghosts are extremely likely to appear.

It often happens that a portrait lens is taken to pieces to clean, and unless care is exercised the components of the back combination may become displaced, and give rise to curious surmises why the lens will not work as well as before. The chief point to be observed is that the flatter side of the convex lens of the posterior combination is next the ground glass. In this it will be seen that the back surface is considerably flatter than the front surface of the lens. It will be noted that the two lenses are separated by a small brass ring. Care should be exercised that the screwed ring holding lens in position is not screwed in too hard, or the separating ring may crack or star the lens.

There are several modifications of the original Petzval portrait lens, such as Dallmeyer's, Suter's, Voightlander's, Steinheil's, but the description of these modifications belongs rather to the theoretical side of photographic optics.

Ratio Aperture.—The method for determining the ratio which the aperture of the lens or diaphragm bears to the focal length of the lens has already been described. See Diaphragm.

Single, or Landscape Lens.—See Landscape Lens.

Stops.—In ordinary phraseology this term is synonymous with Diaphragm, *q. v.*

Triplet.—An old-fashioned lens, the manufacture of which has long been discontinued.

Wide Angle and Width of Angle.—See Angle.

Working Aperture.—See Diaphragm.



Reviews.

Les Nouveaux Procédés de Tirage. By L. Mathet. Published by La Société Générale d'Éditions, 24, Boulevard Saint Germain, Paris. Price 3 francs.

This little work treats of collodio-chloride, gelatino-chloride, gelatino-bromide, platinotype, ferro-prussiate, carbon, and colotype printing processes, and forms a useful and convenient reference work. We note that on p. 23, in speaking of gelatino-chloride developing paper, M. Mathet gives among such commercial papers the Alpha and Morgan and Kidd's, but we believe the first of these to be a chloro-bromide and the latter a pure bromide. Numerous formulae, both for emulsions, developers, and toning baths, etc., are given, and, where necessary, illustrations are inserted. A very good collotype forms the frontispiece.

Instantaneous Photography.

By W. JEROME HARRISON, F.G.S.

CHAPTER XVI.

COMPLETING THE NEGATIVE.

How to "Fix" the Negative.—The word "fix" has a rather special meaning in photography. It is applied to the process by which the unused silver salt is removed from a surface upon which a photograph has been produced. Of the silver bromide contained in the film of an ordinary dry plate, only a small part is reduced to metallic silver by the joint action of light and the developing solution. But the remainder must be got rid of before the developed plate can be exposed to light, since otherwise it, too, would be acted upon, and the entire surface of the plate would darken, rendering the original image obscure or invisible.

The term "clearing" was at one time used for the process which we now call "fixing," and it certainly expresses better what actually takes place.

The fixing agent which is universally employed by photographers is the substance known to modern chemists as *thio-sulphate of soda*, but which was formerly believed to be *hypo-sulphite of soda*. Among photographers the latter term—or rather its abbreviation "hypo"—is all but universally retained. Good "hypo" is sold in clear crystals; and it is so cheap (twopence a pound or less) that it should be freely used, and its solution changed as soon as it becomes much discoloured, or begins to do its work slowly. The hypo crystals (as purchased) are best kept in a large stone-ware jar, with a tightly-fitting lid. The reason is that they absorb moisture from the air, and if kept in a paper-bag, etc., the whole soon becomes a wet, clammy mass.

The fixing solution should be made up as follows:—

Hypo ...	...	...	...	4 oz.
Water ...	...	...	...	20 „
Ammonia ...	...	...	...	1 drachm.

Ordinary tap water should be used, and it should be made hot before it is poured upon the hypo crystals, which will then dissolve quickly. The best plan is to make up five or six quarts of this solution at once, putting it in large, well-corked bottles, round which brown paper has been pasted to exclude the light. Be very careful not to spill the hypo solution, or to drop the crystals about the floor of the dark-room. They form a fine powder which often finds its way into places (as the developing or the toning solution) where it is not wanted, and which is then most injurious.

The dishes used for fixing purposes should be carefully washed, and *never employed for any other purpose*. They become impregnated with hypo, which is sure to taint any other solution poured into them. It is rather important to use the hypo at the right temperature—between 60 and 70 deg. Fahrenheit. Cold hypo fixes very slowly; and it should be noted that the very act of dissolving the crystals produces cold. It is for this reason (among others) that we recommend warm water to be employed in making up the solution. On the other hand, a hot or even very warm solution will possibly cause the whole film to slip off the plate.

Time Required for Fixing.—Plates differ very much in the time they require for complete fixation. Some appear to be completely cleared in five minutes, while others still show traces of the white silver bromide after half an hour's immersion in the hypo solution. If a plate fixes very rapidly, it is a sign that it is poor in silver. But the converse—long fixation—may be due to the employment of a hard gelatine, which will not allow the fixing agent to freely permeate its substance.

The negative should be well rinsed (to free it from the developing solution) before immersion in the hypo tray.

The Alum Solution not Necessary.—It is recommended by many workers to soak the plate in an alum solution for ten or fifteen minutes after development and before fixing; but except in extremely hot weather, and when the films show signs of puckering or "frilling," we do not recommend this. It is a loss of time, and it necessitates a good washing after the aluming before it is safe to pass the alumed plate into the hypo. With the excellent plates now made, the alum solution ought not to be necessary.

How to Tell when the Negative is Fixed.—The usual way in which complete fixation is judged is by lifting the negative out of the hypo dish, turning it over, and noting the absence of any white patches or streaks from the back. But this is not an infallible sign. The best plan is to leave the negative in hypo-bath No. 1 until all traces of the white silver salt have disappeared (this will usually require ten or twelve minutes), and then transfer the negative to a second bath of hypo (No. 2), in which the negative should remain for a quarter of an hour. It is lamentable to think that countless valuable negatives have become spotted, discoloured, and worthless from want of care on this very point. When the first hypo bath becomes much discoloured, and begins to do its work slowly, throw it away, let hypo-bath No. 2 take its place, and use a fresh (*not necessarily "freshly-made"*) solution of hypo in place of No. 2.

Washing the Negative.—When the negative is thoroughly fixed, it must be removed from the hypo solution and carefully washed in fresh and frequently changed water. It is our invariable plan to allow the negatives to wash all night (or, say, from ten to twelve hours), standing vertically in grooves in a zinc trough, the water of which is continually and rapidly being changed. The fresh water enters the trough at the top by means of a short length of india-rubber tubing attached to a water-tap; and it is discharged from the bottom through a siphon.

If the negative be dried without washing, or after mere rinsing, the hypo contained in the film will crystallise out, and the surface of the film will be covered with tiny crystals, producing a sort of "misty window" appearance, and rendering the negative useless for printing from. Here the damage is plain, obvious, and immediate. But let the washing be conducted in such a manner as (by allowing the negative to stand for hours in perhaps only three or four changes of water, for example) to remove, say, 999 thousandths of the hypo which it contains, then the damage will not be visible when the negative is dry, nor, it may be, for months or even years. But sooner or later the minute quantity of hypo left in the film will make its fell presence evident, and ugly yellow stains or patches will pervade that "precious and historical" film on which we relied to furnish prints to generations yet unborn; and the "perfect negative" will become a thing to attest the carelessness of its producer!

Swabbing the Negative.—"Water"—especially commercial water—is a mysterious compound! A single glassful drawn from the tap may appear all that is desirable, but tie a muslin bag over the same tap, and allow a stream of water to pass through it for a whole night, and you will find some curious things in your muslin bag the next morning! That is, if your water is of the same quality as that supplied to divers large towns of which the writer wotteth. Setting aside the various living things—small worms, insects, etc.—about which people not unfrequently write complainingly to the newspapers—ordinary running water almost invariably contains a small percentage of dirty slimy matter, which seems to like to adhere to the gelatinous surface of the photographic

film. To remove this surface dirt, the negative should be well swabbed with a pad of cotton-wool while the plate is held beneath the tap.

Clearing the Negative.—The word "clearing," as now employed in photography, means the removal of stains or discolouration. If the negative be thin, and the stain be of a yellow tint extending uniformly over the negative, we recommend the operator not to attempt to remove it; for it will improve the printing qualities of the negative rather than otherwise. Most negatives, however, are improved by a dip—for two or three minutes—in the following solution:—

Alum solution (saturated)	4 oz.
Water	2 „
Ferrous sulphate	100 gr.
Hydrochloric acid	2 drms.

Don't leave the negative unwatched in this solution, or it may "improve" the image from off the surface of the plate! For this solution is a reducer as well as a clearer. By omitting the ferrous sulphate, however, the reducing action is checked. This clearing solution brightens up a negative and makes it print more quickly. After this treatment the negative should be again washed in running water for half an hour, and it is then ready to be dried.

Drying the Negative.—Having given the film a final swab under the tap, dry the back of the plate roughly with a towel or duster, and then gently press upon the film a sheet of the fluffless white blotting-paper which is now sold * specially for such work. The negative should be then stood up to dry upon a strip of blotting-paper in any warm corner, or upon a mantelpiece, etc. If the room is at all dusty, turn the film towards the wall.

If rapid drying is desired, the negative should be soaked for five minutes in methylated spirit.

Storage of Negative.—When the negative is thoroughly dry, the back should be cleaned from any stray emulsion by rubbing it with a little salt applied by means of a pad of damp cotton-wool. It is then a good plan to *scratch* the name and the number† of the negative upon a blank part of the margin of the film. If a writing-diamond is at hand, these particulars can be marked on the glass at the back; but they can be readily cut into the margin of the film by using the point of a sharp pen-knife, or a fine-pointed pair of scissors, etc.

The storage of negatives, so that they shall be safe and readily accessible, is not a difficult matter so long as they are few in number. But when they come to be counted in hundreds (and this soon comes about to the enthusiastic worker) the problem becomes more difficult. It is often surprising to note the total want of care of good negatives, which must have cost much time and trouble to procure, which is evident on the part of many photographers.

For our own part we are well pleased with the capital grooved plate-boxes made by Arundel and Marshall‡ for which a medal was bestowed at Pall Mall a year or two ago.

Mr. Tylar's§ tough paper negative envelopes are also good, and they take up less room than grooved boxes. In any case the negatives should be kept in a dry and warm place, and if they are carefully dated and named it will be found that their interest and value will, in the future, be considerably increased.

* Among others by George Wheeler and Co., 46, King Street West, Manchester.

† It is presumed that every careful worker attaches a "progressive number" to each and all of his negatives, by which the particulars recorded in the Exposure Book concerning it can be readily referred to.

‡ Penn Street Works, Hoxton, London.

§ 57, High Street, Aston, Birmingham.

The Lantern, and How to Use It.

By C. GOODWIN NORTON.

(Continued from page 339.)

CHAPTER III.

HYDROGEN GAS may be prepared by pouring dilute sulphuric acid on scraps of zinc, when the gas is at once evolved. To obtain 8 or 10 cubic feet of hydrogen in this manner is a tedious process, and sulphuric acid is somewhat difficult to procure in country places.

Fortunately, we have carburetted hydrogen or ordinary house-gas nearly always at hand. In the simplest form of limelight burner, or jet, that of the safety or blow-through (fig. 2), which requires a large, loose flame, it is usual to

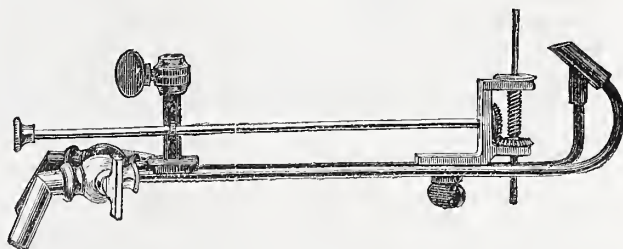


FIG. 2.

attach the *dull* tap to the nearest gas bracket with a length of rubber tube.

For convenience, house-gas in limelight matters is described as hydrogen.

The other tap, polished BRIGHT, is connected to the oxygen supply, the jet being so constructed that the nipple at the end causes the oxygen to blow through the hydrogen on to the lime in the same manner as a blow-pipe, hence its name.

The lime is supported on a pin sliding backwards and forwards on the two tubes to allow the distance between the nipple and the lime to be adjusted.

It is necessary that the lime should be turned round occasionally to present a fresh surface to the action of the flame. In the early forms of jet, the lower part of the pin was threaded and passed through a small stage on the tubes, and it was necessary to open the lantern door frequently and turn the lime round by the fingers.

The illustration shows an improved method, but the cog-wheels must be kept very clean and slightly lubricated. The burner is supported by a short, upright rod passing through a hollow column near the taps. This rod is fastened to a tray which slides into the bottom of the lantern, allowing the burner to be swung round in any direction, raised or lowered as required. But as it is necessary for the light to be accurately centred, some means must be taken to securely fix the jet into position. A small screw passing through the side of the hollow pillar and pressing against the rod of the tray is considered by some makers sufficient for the purpose, but it is advisable to adopt more effective means to clamp the jet.

There are several elaborate arrangements for this purpose, but they are expensive and add to the weight of the lantern. As the jet when once fixed seldom requires to be moved during an exhibition, they may be regarded rather as luxuries than as necessary for the effective working of the lantern. Two methods may be mentioned as simple and effective; one is to have two small upright pins with a space between them equal to the external diameter of the supply pipes of the jet, between which one of the pins passes; the other pin is outside and is threaded to receive a disc on which the jet rests, this allows the light to be adjusted to

any height. In order that the jet may be moved from side to side as required, the two pins are fastened to a small plate, having in it a slot, through which passes a screw with milled head to fix it to the tray. The other plan is to fix a small plate with a slot in it standing out from the side of the supply pipes. A single upright pin threaded all the way down is fixed to the tray and engages the plate, to which it is secured by two circular discs, one above and one below.

The mixed jet (fig. 3) differs a little from the blow-through, but the arrangements for adjusting and fixing are precisely the same. Instead of the oxygen blowing through the hydrogen, the two gases are mixed in a small chamber,

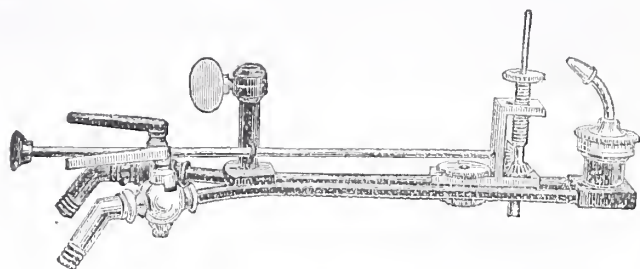


FIG. 3.

and come both together out of one orifice. The advantage of this arrangement is that more than twice the light can be obtained, but as both gases must be forced through the jet at the same pressure, the supply of hydrogen cannot be obtained directly from a gas bracket. The pressure of gas coming from the house supply is variable, but generally equal to a column of water $1\frac{1}{2}$ in. high. To make this clear, let us suppose that a tin dish, $1\frac{1}{2}$ in. deep, filled with water, were placed on a gas bag so as exactly to cover it; not reckoning the weight of the tin, we should then have the same pressure as from the gas mains.

Mixed jets require a pressure equal to the weight of a column of water about 12 in. high. This varies according to the size of the nipple and the power of light required. In order to get the best possible light, the two gases should be thoroughly mixed together before leaving the jet. To this end the chamber is sometimes filled with wire gauze or pieces of pumice stone, but is often left quite empty. This the user can easily decide for himself by trying. By some it is considered that filling the chamber in this way tends to make it safe, or safer, from explosion. But it must be clearly understood that PERFECT SAFETY can only be secured by keeping the two gases constantly under pressure during

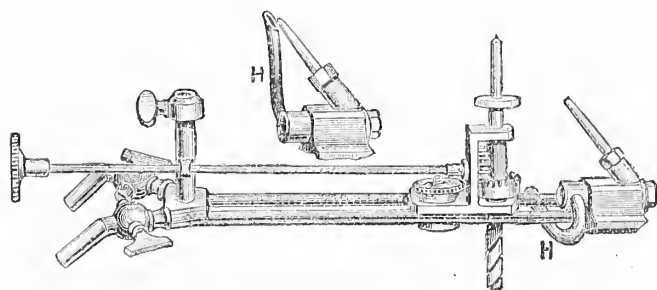


FIG. 4.

use, and by keeping them quite separate until they mix in the chamber.

There is also an "interchangeable jet" (fig. 4) for both gases under pressure, or for the blow-through form by simply changing the burner as required, but great care must be taken that the leather washer is in good order, and that the joint is quite gas-tight, as a small leak would soon render the jet useless.

Another jet, known as the "combination," has no loose parts to be mislaid; both gases can be turned up or down, either mixed or blow-through, without touching the regulating taps. This is convenient and effective, but care must be taken not to attempt to use the mixed burner when the hydrogen tap is connected with the house supply. With this last-mentioned jet there is a spiral lime turner, which raises the lime half an inch in a complete revolution, and will automatically expose a fresh surface without any judgment on the part of the operator. The better class jets of all kinds are supplied with platinum nipples to render them more durable.

The third kind of burner is the spirit jet (fig. 5), constructed to burn mothylated spirit, instead of hydrogen, in places where the latter, or its substitute coal gas, cannot be obtained. It gives a light nearly equal to the safety, but it is more expensive to use and requires great care and attention. There is another vessel inside the one shown in the figure, which contains the spirit and allows a little to flow into the outer chamber to replace that which is being burnt. The particular danger with this jet arises from the liability of the spirit to come out too quickly or from a leak in the vessel, or from its being accidentally upset. The flame from the spirit cannot be turned down in the ordinary spirit jet. Mr. Wood, of Cheapside, has introduced an improvement by means of which the spirit flame is kept about the size of a pea until the oxygen is turned on, when it increases to its proper size. This is a great advantage.

All spirit jets should have some arrangement for keeping

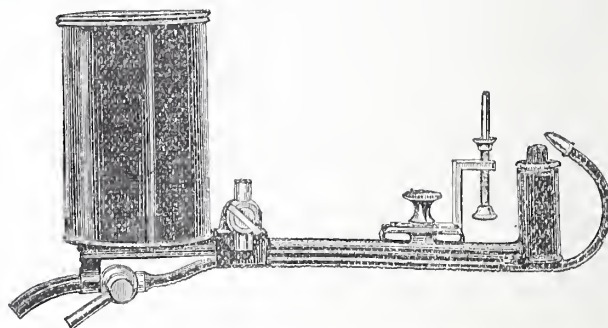


FIG. 5.

the spirit vessel upright should the lantern require to be tilted.

There are several accessories to jets intended to facilitate their use or to increase the power of the light.

Mr. Wood's lime-shield is a thin metal case fixed to the lime holder of the jet; by its use the lantern is kept cool, and the lime protected from fracture by the action of cold air. The aperture in the shield allows all the light to pass, but the flame and heated air are drawn upwards into the lantern chimney. It is a little in the way should a lime require to be changed quickly, but this appears to be the only drawback.

Messrs. Newton's improved lime movement is an arrangement to utilise the whole lime surface by means of a spiral screw, which raises and rotates the lime at the same time. A click is fitted to the milled head, which renders the action nearly automatic. In a properly constructed lime turner, however, the pin should be so arranged that it can neither be turned up high enough to allow the flame to pass underneath the lime, nor low enough for it to go over the top. In the latter case it might set fire to the back of the lantern; in the former it would burn away the pin. This applies specially to lime turners fitted with check action. There is a new cut off made by Messrs. Newton to turn the light

up or down without altering the adjustment of the taps. This is an advantage with a single lantern, but when two or three lanterns are used, the same object can be secured in another way, as will be seen later on. Mr. Hughes, of Kingsland, has a special lime turner which prevents the dust from the lime interfering with its proper working; he also makes a special mixed jet producing a very powerful light, but its internal construction he keeps secret.

Messrs. Noakes, of Greenwich, make special taps for jets, which open very gradually, and are a sure cure for the roaring and hissing often associated with the limelight. The two gases can be adjusted to each other with the greatest nicety. They can be used with any kind of jet.

The lanternist should carefully consider which kind of jet will best suit his particular purpose. The safety jet will show a coloured photograph in a satisfactory manner up to about 15 ft. diameter; the mixed jet up to 25 ft. or 30 ft. The spirit jet cannot be depended upon to cover more than 12 ft.

It should be noted that a circular disc of 15 ft. in diameter requires a little more than twice the amount of light that one of 10 ft. does; this is ascertained by multiplying the diameter of each disc by itself, and three-fourths of this sum will be about the number of superficial feet contained in the circle.

The advantages of purchasing gas compressed in cylinders are:—(1) There is not the trouble of making; (2) the cylinders are portable, and take up little room; (3) no weights or pressure-boards are required; (4) there is little or no waste, as the gases will keep any length of time; (5) there is no danger of the gases passing back, even if the whole apparatus is turned over; as occasionally happens; (6) if good regulators are used the taps do not require adjusting; the light is good, and dissolving can be effected without trouble.

The disadvantages are:—(1) The trouble and expense of sending the cylinders to be refilled; (2) the risk of the gas not arriving in time for an exhibition; (3) the difficulty of knowing how much gas is in the cylinder, many of the gauges sold for the purpose of showing the quantity in a cylinder being dangerous and unreliable; (4) in using mixed jets the cost of the gas is nearly doubled.

The advantages of using bags are:—(1) cheapness, coal-gas costing less than a halfpenny for 12 ft.; (2) the user is not dependent upon others for his supply of oxygen, as it can be made anywhere; (3) the amount of gas in the bag can be seen at a glance; (4) greater safety in some respects; with bags the lanternist can take his own precautions, with gas cylinders he must trust to the maker or dealer.

The disadvantages:—(1) Making oxygen gas takes a considerable time, and cannot well be deputed to any one; (2) bags are perishable and liable to injury; the bags, boards, and weights are cumbersome things to carry, and take up a lot of valuable space when in use; (3) hydrogen must not be kept in a bag more than a few hours, nor oxygen more than three or four days, so that any gas left is generally wasted.

There is the danger of the gases getting accidentally mixed in the bags either before or during use, but, with ordinary care, this should never happen.

To sum up, if the lanternist lives in London or a large town where he can be sure of getting the gas cylinders filled when required, he will find them cheapest and best to use. But if far away in the country, or there is any special difficulty about this, he had better make his own oxygen, and use a spirit jet if no house-gas be at hand. There is the ether-oxygen light and benzo-oxygen light, but at present there is some uncertainty about the safety of these. This will be dealt with later on.

Gas bags are or should be made of two thicknesses of stout twill with a layer of india-rubber between. They are of wedged form, so that they can be placed between a pair of boards hinged together.

Each bag is furnished with a tap placed in the centre of the thin end of the wedge. Some taps have their handles like those of an ordinary gas bracket, others are arranged so that a padlock can be applied to secure the contents against being interfered with, by design or accident; the latter are recommended.

The quality of the india-rubber is the most important part to study when purchasing a gas bag, and as no part of it can be seen the buyer must trust to the dealer's reputation to secure himself a good article.

Gas bags are made in certain definite sizes, generally to contain from four to twelve cubic feet. The capacity is easily ascertained by multiplying together the length and breadth, and half the thickness at the larger end; thus a bag measuring 36 in. by 24 in. by 24 in. would contain six cubic feet. But as the bag bulges when filled, it will be found in practice that nearly seven feet can be forced into a bag of this size without injury.

Pressure boards, whether single or double, if intended to be always used in the same place, may be made of solid board clamped at the ends. But where lightness and portability are an object, they had better be made of wooden bars each 3 in. by 1 or $\frac{3}{4}$ in. according to the size of the bag; these can be placed three or four inches apart, and secured at the ends by crosspieces the same size. Common webbing nailed across the inner side will form a sort of trellis work. Or these skeleton frames may be covered by two pieces of sail-cloth nailed at the edge and laced together down the centre. On the upper board should be a shelf to hold the weights.

In using a pair of single pressure boards the bag has merely to be placed between them, and secured by a strap or piece of cord to prevent it from slipping out when the weight is applied.

When mixed jets are used, both bags should be placed in one pair of boards to ensure equal pressure. A piece of sail-cloth between the bags and fastened to the front edge will help to keep them in position. If the boards are stationary and weight no object, this piece of canvas is better replaced by a solid board.

The boards are fastened with hinges to a frame. At the opposite end is a strut to raise the smaller ends of the bags from the floor to a height of about 18 in.; this brings the top board more nearly to a horizontal position.

With two bags great care is required. The frame having been screwed securely to the floor, turn back the top board and the sail-cloth, put the hydrogen bag into position, then pull the sail-cloth tightly over it, and pass the strap through a hole in the cloth; next place the oxygen bag on the top, replace the top board, and tighten up the strap.

Raise the boards and bags by the smaller end, and adjust the strut underneath. It is most important that the raised ends of the pressure boards should be secured with two guy ropes attached to screw eyes in the floor. The weights must be firmly tied on or otherwise fastened. All this must be carefully done to secure perfect safety.

Accidents generally happen from the weights slipping off, or from the whole apparatus toppling over because the raised ends have not been fastened down.

Never let bystanders under any pretence whatever touch the bags while there is a light at the jet. Should any difficulty from meddlesome persons be anticipated, it is well to depute some one to look after the bags and prevent anyone approaching them.

Once more, provided the bags, each containing its proper

gas, are sound, and secured between the boards, and the whole firmly fastened to the floor, perfect safety is assured as long as the weight is kept on the bags.

Quarterly Examinations in Photography.

Question 23.—Explain the construction of the optical lantern. What is the best form of condenser?

ANSWER.—The optical lantern is an instrument adapted for exhibiting pictures on a larger scale, by means of magnifying lenses. Its construction is founded on the principle, in optics, that when a picture or other object is placed in front of a convex lens at a distance from it somewhat greater than its focal length such picture or object will be reproduced, in an inverted position, on a screen placed at a certain distance behind the lens, that distance being greater the nearer the picture in front of the lens is to its principal focus.

The arrangement consists of a dark lantern, within which a powerful lamp or other illuminating device is placed, having a bent chimney at the top to allow the smoke and heated air to escape. Behind the lamp is fixed a concave reflector, in front of the lamp, and, on a level with its flame, a tube is inserted in which a large convex lens is fixed, by means of which the light of the lamp is condensed, and the image to be displayed is equally illuminated. Beyond this is a slit or groove to hold the slide or carrier of the lantern-plate. At the end of the tube is the objective or magnifying lens provided with a focussing arrangement. At a distance from this an opaque white screen is placed upon which the enlarged and illuminated picture is focussed and exhibited.

The best form of condenser is a double one invented by Mr. Dallmeyer. It is of 4 in. effective diameter and $2\frac{3}{4}$ in. equivalent focal length. It consists of two unsymmetrical lenses. The one nearest the lamp is a plane-convex of flint glass of $3\frac{1}{2}$ in. diameter; the other is a double convex of crown glass of 4 in. diameter. The lenses are mounted a certain distance apart, with their deep sides facing each other. More light is collected than by the ordinary forms of condenser, and spherical aberration is reduced to a minimum.

MONDS.

Question 23.—Explain the construction of the optical lantern. What is the best form of condenser?

ANSWER.—The optical lantern is an apparatus used to project a magnified image of a positive upon a white screen in a darkened room.

Practically, it consists of a box, which is made either of tin, or of wood lined with tin, in which is placed a lamp in the focus of a silvered reflector, the light being condensed by a pair of plano-convex lenses, and the positive being placed close to the condensers, a special photographic lens being placed at the focus of the condensing lens, which produces a magnified image. Usually, a three or four wick lamp is used to give the illumination, the edges of the flame being presented to the condensers, which should be as close as possible to the flame without danger of cracking them. The positive should be placed upside down, and film side inwards, as close as possible to the condensers, the magnifying lens, which is usually provided with a rackwork movement to ensure easy and accurate focus, being placed at the focus of the condensers.

Of course, the style of lantern is due to very many alterations, some of the expensive triple lanterns being marvels of workmanship, and resembling the description given only in principle.

The light used for the more expensive lanterns is generally what is known as oxyhydrogen light, and, of course, is far superior to any sort of oil lamp; but, except for large entertainments, or for a very special occasion, the ordinary single three or four wick oil lamp will serve any purpose.

The best form of condenser, as recommended by Mr. Traill Taylor, is that of one plano-convex or slightly meniscus lens in conjunction with a bi-convex lens, and to use a third lens of meniscus form placed much nearer the light, but not of such large diameter as the first two mentioned lenses; by this means nearly double the amount of light is obtained as that when only the two first-mentioned lenses are used.

THEO.

THE PARD.—(23) The condenser you suggest is the one in ordinary use, which is much inferior to the one given in published answer.

ENALOF.—(23) The convex surfaces of condensers do not touch, but are very slightly separated.

BRUM.—(23) See note to "The Pard."

E. W. G. M.—(23) You omit to state the best form of condenser. The other replies require no comment.

QUESTIONS.

(For Questions 31, 32, and 33—latest day for Answers, Nov. 30—see last week's issue.)

- 34.—Take the interior of a room, including the fireplace, and a window, showing, if possible, a view through the window.
- 35.—What is the effect of pressure on a sensitive film before and after exposure, and is there any difference to be seen between the two on the developed plate?
- 36.—What do you consider the most important scientific application of photography, and what the most useful commercially?

Latest Day for Answers, December 14th.

RULES.

1. Answers must be received on the date stated each week in the AMATEUR PHOTOGRAPHER.
2. All answers must be preceded by the question, and should be written on one side of the paper only, and each answer must be on a separate sheet or sheets.
3. A *nom de plume* may be used, and must follow every answer, and be affixed to every specimen of practical work.
4. Answers are not limited in length, but preference will be given to concise answers without unnecessary amplification.
5. Those desirous of competing must apply to have their names entered. As these examinations are intended to encourage the study of the theory and practice of photography, authorities upon photographic matters and contributors to the photographic journals will not be allowed to compete.

NOTE.—No information of any kind will be given to competitors, and nothing but the answers must be included for the examiners. All other communications must be addressed to the Editor.

Marks will be given for all answers, and, when possible, the best three answers will be published. The answer will not be published till the week following receipt of the same, and the examiners criticise each answer sent in, and when no satisfactory answer is received, will supply one. Three prizes will be awarded at the end of each quarter. (Full syllabus on application.)

All communications to be addressed to:—"EXAMINATION DEPARTMENT," AMATEUR PHOTOGRAPHER, 1, CREED LANE, LONDON, E.C.

Carbon Printing.—Mr. F. Fry, of the Woodbury Company, writes us:—"I am really surprised to find what deep interest the amateur world appears to take in the carbon process, showing clearly that the want of a really permanent photographic process is deeply felt. I am simply inundated with applications for list and cost of apparatus, etc., etc., so much so that I am preparing a pamphlet containing, I hope, clear and concise instructions for working the process by amateurs, which, together with a specimen print, we shall send on receipt of 6d. in stamps, the print alone being worth the money. The popularity of the AMATEUR PHOTOGRAPHER is demonstrated by the letters we have received, in consequence of your article, from far and near."

Camera Club.—On Thursday, the 19th inst., Mr. G. L. Addenbrooke read a very complete and interesting paper on "Aluminium and its Application to Photography." Mr. M. England occupied the chair. Mr. Addenbrooke briefly described the methods of production of the metal, dwelling upon the circumstances which have led to the cheapening of its price. The qualities and characteristics of aluminium for casting, soldering, rolling, and for working generally were given, and the lecturer concluded by describing the utility of the metal for photographic purposes. Some excellent examples by the Phoenix Engineering Company, who appear to be chiefly responsible for the development of the metal for practical purposes, were on exhibition in the room. In the discussion, remarks were made and questions put by Dr. Massey, Messrs. Andree, Cunningham, Howlett, Seyd, W. H. Harrison, and the Chairman. At the lantern evening, Monday, November 30th, Mr. Frank Haes will exhibit his slides showing what was done in "The early days of animal photography." On Thursday, December 3rd, Mr. A. R. Dresser will treat the subject "Toning Bromide Paper and Transparencies," with demonstration and illustration.

Midland Camera Club.—The ordinary general meeting was held on the 20th inst., Dr. Hall Edwards, President, in the chair. Fifteen new members were elected, making a total of sixty-three. Dr. Leech offered a prize of a hand-camera, if the club intended to hold any competition at the end of the winter season. The lantern was then brought into requisition by Messrs. Warren and Welford, and the slides were described by each member. Professor Allen showed several of Somerset churches: the President, a few home pictures and some sketches made in lead pencil upon ground glass, afterwards made transparent by varnishing. These latter, he said, were extremely easy to do, and the surface admitted of the most delicate shading. The slides were greatly applauded. The Hon. Sec. showed hand-camera shots, flash-light work, and isochromatic results against ordinary plates. Mrs. Welford showed hand-camera work, and the following exhibited varied sets:—Rev. J. Henry, J. J. Perry, Frederick Iles, W. W. J. Nicol, R. J. Bailey, and William Bentley. Dr. Maberly showed a series of Norway slides. Next meeting, December 4th, "The Keeping and Qualities of Gelatine Dry Plates," by Dr. Leech.

Miscellaneous.

It is, we are sorry to say, our painful duty to chronicle a sad accident that took place at Ilkeston on the 18th inst. The *Rotherham Independent* says:—

"A terrible calamity occurred at Ilkeston, by which one person was killed, and a large number were injured. Councillor Joseph Scattergood was giving a magic-lantern entertainment in the Methodist Church. The lantern was a new one, but the oxygen was contained in a large bag, which Mr. Scattergood has used for some years in connection with his lantern entertainments. The exhibition had commenced, and was apparently going on all right, when without a moment's warning a terrific explosion took place, completely wrecking the interior of the church, blowing out every window in the building except one in the front, and inflicting injuries of a more or less serious character upon many present. The only fatality at the time of writing was that of a youth named Herbert Brewer, about 15 years of age. He was struck by some missile at the base of the forehead, his skull being badly fractured. He was alive when picked up, and was carried to the hospital, but died directly he got there. Mr. Scattergood himself narrowly escaped severe injuries. He has been an expert exhibitor for many years. It is imagined that some defect in his gas bag caused the explosion."

Many of those present were seriously injured, and the greatest excitement naturally prevailed. The inquest is to be held this week. We shall, therefore, have the evidence before us, and next week shall refer to the probable cause of the explosion.

THE Hon. Treasurer of the Manchester Amateur Photographic Society, Mr. Chas. Dawson, has forwarded us a cheque for £1 1s. for the "Maddox Fund," enclosed in the following letter:—

"Enclosed please find cheque for £1 1s., being our donation to the 'Dr. Maddox Fund.' Considering the pleasure that the amateurs have derived from the unselfishness of Dr. Maddox, we trust that the scheme will meet with that hearty practical support from the photographic societies that it deserves, and that you will have a heavy list to pay the bankers is our sincere wish."

As representing in a very great measure the interests of amateur photographers all over the world, we would especially ask them to subscribe liberally to the "Maddox Fund." The example of the Manchester Amateur Photographic Society may well be followed by others, and we shall be delighted to receive donations from them, as well as from any of our subscribers.

OUR note as to the keeping power of plates has caused several of our readers to supply information on the subject. One correspondent sends us some prints "taken from a plate bought in 1880. My friend (he says) purchased some dozen when starting for Australia. They were there unopened for about four years. On his return, he left them in the yacht (docked) for another five, and the early part of last year he sent them on to me. The plate was exposed in September, and I developed it last month (October), getting a very fair negative with others of same batch." The print in question is a very good one, and speaks well for "the plate and its keeping powers." Another correspondent also sends us two prints "from plates bought in 1880 . . . and developed with pyro and ammonia." These prints also speak well for the plates, and are good, technically and artistically.

THE advantage of photography in legal matters was testified by Mr. Justice Hawkins in trying a case last week. Certain letters were put in evidence, and as there was some doubt as to their authenticity, the Judge asked whether there were photographs of them. "It saves an infinity of time to have photographs," said Sir Henry. Although an expert in handwriting was a witness, the Judge afterwards remarked that it was astounding that no photographs had been taken of the documents. It may be recollected that at the Parnell Commission photographs played a prominent part.

"Amateur Photographer" Monday Evenings.

ON Monday evening, in the absence of Mr. Charles W. Hastings, Mr. E. J. Wall presided at the meeting and exhibition of slides, and punctually at 8 p.m. opened the proceedings, after an apology for Mr. Hastings' absence, as follows:—

"You are of course aware that this is our usual night for a lantern exhibition, and that therefore the time at my disposal is limited; in fact, I have to compress into the space of about half an hour a lecture and demonstration which would in the ordinary course of events well absorb from one hour and a half to two hours. For this reason you will have to take a great deal that I tell you upon credit, but I will as far as possible show you a proof of my statements as I proceed."

"There are more ways than one of making lantern slides; the first by contact printing, the second by reducing in the camera. I shall show you both presently. There are, too, several processes by means of which we can make slides, viz., wet collodion, collodion emulsion or collodio-bromide, the carbon process, which I believe Mr. Fry showed you a fortnight ago, and the gelatine dry plate, the use of which I am to tell you something about to-night."

"There are three kinds of gelatine plates used: the bromide or bromo-iodide, the chloro-bromide, and the chloride. The first two are specially suitable for reducing in the camera and for contact printing by artificial light, and the third, the chloride plate, for contact printing by daylight or magnesium ribbon. Probably some one will wish to know which is the best plate to use, and all I can say is, the one that will give you the best results; some prefer one make, some another."

"The bromide or bromo-iodide plates will give us pure blacks, the chloro-bromide any colour from black to cherry-red, and the chloride from black to bright yellow. For successful work it is necessary to know the rapidities of the different plates in the market, unless we stick to one brand. To determine this, I have exposed some of the leading commercial makes behind the graduated screen of a Warnerke's sensitometer at a distance of 2 feet from a No. 3 Bray burner for 60 seconds, and the following are the rapidities calculated from results obtained:—

Plate.	Deg. W.	Rapidity.
Mawson's	20	1
Fry's	20	1
Thomas	15	4
Ilford Special	20	1
„ Alpha	7	36
Edwards' transparency	25	$\frac{1}{4}$

All the plates were developed at once in the same developer, and development carried as far as possible."

In consequence of the advance of time, it was found impossible to do more than explain the leading principles, and show the working of the excellent lantern-slide cameras of Messrs. Pearson and Denham, and Walter Griffiths and Co. The special printing frames of Mr. A. R. Wormald and Mr. Martin were also shown, and afterwards handed round for examination. Mr. Wall announced that early in the year a whole evening would be set apart for a demonstration on the subject, and endeavours would be made to show lantern-slide making by various processes—wet collodion, collodio-bromide, carbon, and gelatine plates.

The next demonstration will be on Monday, December 7th, at 8 p.m., when the subject will be "Flash Light Work," by Dr. J. J. Acworth, F.I.C., F.C.S.

Mounts for Christmas.—It has become quite general now for amateur photographers to send their photographs mounted as Christmas cards. Messrs. Hannam and Co., of Atlas Works, Gainsborough, have sent us some specimens of their work, which are most chaste and novel in design, and have the distinct advantage of being "made in England." We should strongly advise our subscribers to send for price list, etc.

"The Gentlewoman" is one of the foremost and most enterprising of the ladies' illustrated papers. We have before us the Christmas number of the *Gentlewoman*, which contains a beautiful supplement, a fine satin panel, upon which is printed a picture illustrating Tenyson's lines, "Her Eyes are Homes of Silent Prayer." The number contains many stories by many writers, illustrated in colour.

A Model Catalogue.

Mr. J. R. Gotz, of 19, Buckingham Street, Strand, London, W.C., has favoured us with his descriptive catalogue of "Photographic Objectives, Apparatus, and Materials." In his preface Mr. Gotz says, "I only catalogue those goods which I either manufacture myself, or for which I hold a special license as representative of the maker." For several years Mr. Gotz has been agent in England for Suter's aplanatic lenses; their many good qualities are well known, and they are now made of the Jena glass and fitted with Iris diaphragms. A very efficient single lens with effective aperture $f/12$ and an angle of view of 50° , and made with Iris diaphragms, is offered; also portrait lenses (Petzval system). These lenses are extremely rapid, and give brilliant, well-defined images with full aperture and great covering power. Workers in stereoscopic photography should see both the lenses and special shutter supplied for the work. The "Volute" instantaneous shutter is amongst the best in the market. Mr. Gotz has also a very admirably designed portable camera, which has every movement necessary for good work and an exceptionally useful movement in the arrangement for short focus, by which the body of the camera can be placed in the middle of the baseboard. The horizontal swing is admirably arranged. Cameras can be fitted with a stereoscopic front and division plate. A novel tripod stand, which is exceedingly rigid, has before been referred to in these columns. A changing box for films, and Mr. Gotz's film carriers should certainly be seen. Mr. Gotz is also agent for Obernetter's specialities, which include gelatino-bromide plates, colour-sensitive plates, negative film, gelatino-chloride printing-out plates for opals and transparencies. The now universally known Obernetter gelatino-chloride of silver emulsion paper is thoroughly described, and the fullest instructions are given for its use; also a gelatino-bromide paper for both contact paper and enlarging in the camera or dark-room. In addition to these, Mr. Gotz does a large business in "iron-printing papers—ferro-prussiate, ferri-cyanide, and ferro-gallic printing papers. Added to this, Mr. Gotz represents Messrs. F. Thevoz and Co., of Geneva, who are art publishers, and do an extensive business in phototype work of all descriptions. We have nothing but praise for the catalogue, which is a most interesting compilation, and something far in advance of the general run of trade catalogues, and Mr. Gotz can at least claim originality of matter and arrangement. We strongly advise our readers to write for a copy, because Mr. Gotz has taken the trouble to practically describe his goods, and how to use them to the best advantage.



Sutton's Process Syndicate, Ltd.—This Company has been registered with a capital of £45,000, in £1 shares. Objects: To adopt and carry into effect an agreement, made 16th November, between H. Sutton of the one part, and W. Peet, on behalf of this Company, of the other part, for the acquisition of certain letters patent relating to "an improved process for converting a photographic image on a gelatine surface into a relief or intaglio printing surface," and to develop and work the same; also to carry on business as inventors, photographers, chemists, printers, engravers, etc. Directors' remuneration, £500, and 5 per cent. of the amounts paid by the Company in dividends or bonuses, such remuneration to be divisible.

Messrs. Morgan and Kidd's Works at Richmond.—Messrs. Morgan and Kidd have just completed important additions to their works. The new buildings comprise offices and show-rooms, and make the frontage of their premises a prominent and ornamental feature of Kew Foot-road. They have now in progress the erection of another and larger building in the rear of their present premises, and on Saturday the foundation-stone was laid by Mrs. Kidd in the presence of all their employes. The silver trowel used was presented by Mr. Charles Eldridge, the builder, and bears the following inscription:—"This trowel was used by Mrs. R. L. Kidd in laying the foundation-stone of the new enlarging house at the Argentic Gelatino-Bromide Works, Richmond, Surrey, November 14th, 1891. Charles Eldridge, builder, Richmond." A sealed glass bottle was placed under the foundation-stone containing specimens of photographic enlargements and prints representative of the work which is now carried on by the firm, and for the production of which the new building will be used. Messrs. Morgan and Kidd's business has outgrown their already large premises at all points. The extensive additions now in progress will be fully occupied as soon as ready, and the extra accommodation will enable them to carry on their work with greatly increased facility and convenience.

Societies' Meetings.

Ashton-under-Lyne.—The last meeting was held on the 18th inst., Dr. A. Hamilton (President), AMATEUR PHOTOGRAPHER gold medallist, in the chair. Mr. W. I. Chadwick (Manchester) gave an exceedingly interesting lecture on "Stereoscopic Work." Mr. Chadwick explained very clearly the optical parts of the instrument, and gave a description of it from its earliest days; apparatus in connection with the different methods of producing transparencies and prints were shown and explained. Mr. Chadwick presented the society with a very interesting set of stereograms and a number of transparencies.

Brechin.—The usual monthly meeting was held on the 19th inst., Mr. Mackie, Vice-President, in the chair. The subject for the evening was the Chairman's paper on "Hand-Camera Work." After speaking on the various points of what he considered a good hand-camera, Mr. Mackie took up the development of instantaneous exposures, recommending dry pyro with ammonia and bromide of potash. He afterwards showed a selection of lantern-slides to illustrate his paper. The lantern lamp used was Stocks's patent, kindly sent down by Mr. Stocks for exhibition. The general opinion was that the lamp was a considerable improvement on the ordinary form of paraffin lamp—the chief points of improvement in it being an adjustable chimney and the reflector outside the combustion chamber.

Brixton and Clapham.—An ordinary meeting of the club was held on the 19th inst., Dr. Reynolds, F.R.C.S., Vice-President, in the chair. The committee reported that in accordance with the wish expressed by the members at the last meeting, they had inspected some rooms that they thought would be more suitable than the Gresham Hall, their present quarters; as they were much larger and more convenient, and also had the advantage of having a room adjoining with a sink with hot and cold water laid on, which could be used as a dark-room and for demonstration purposes. A long discussion followed, and finally it was unanimously resolved that the club should take up its abode at the Clarence Rooms, 376, Cold Harbour Lane, Brixton, without delay, and that a reception be held on 10th December, to inaugurate the opening, upon which occasion Mr. Charles W. Hastings will describe the AMATEUR PHOTOGRAPHER 1891 Prize Slides.

Cambridge.—The monthly meeting was held on the 3rd inst. when the evening was devoted to the lantern, a capital set of slides being lent by the AMATEUR PHOTOGRAPHER. Slides were also passed through belonging to Messrs. Morley, Sanderson, Salmon, Hayles, and Potts. During the evening two handsome silver cups were presented to the winners of the competition for work done during the summer. The first cup, presented by the President (Mr. F. Morley), was won by Mr. P. R. Salmon, who sent in a fine set of pictures, and being only a young worker, they did him great credit. His picture "At the Well" is a fine study; "Outward Bound," an instantaneous view of Lowestoft harbour, is excellent, as also is his lantern slide. The second cup, presented by the club, was won by Mr. F. H. Sanderson, who sent in a fine set of pictures; his study "The Bubble" and a farmyard scene were very good. Other members sent in good work, the most notable being "Pull's Ferry, Norwich," by Mr. W. H. Hayles, and a splendid lantern slide by Mr. G. H. Potts. Mr. R. H. Lord kindly acted as judge, and thanks are due to Messrs. Sanderson and Hardy for manipulating the lantern.

Cardiff.—At the ordinary meeting held on the 20th inst. the members were favoured with a collection of lantern-slides of first-class quality, depicting life and scenery in the United States. Professor Howard, introduced by Mr. W. Davies, waited upon the society on behalf of the British Association asking the members for their co-operation in photographing geological subjects, such as characteristic rock exposures, important boulders, raised beaches, old sea cliffs, characteristic river valleys, or escarpments, etc., etc. After a short discussion it was resolved that if the local committee would compile a list of places of which photographs were desired, the society would as far as possible include such places in their summer excursions. Mr. C. A. Wills was elected an ordinary member.

Coventry and Midland.—This society held a meeting on the 18th inst., when the AMATEUR PHOTOGRAPHER 1891 Prize Slides were shown. The slides were considered very fine and much admired. To-day (Friday) the Boston slides, "In and About Columbus," with lecture, will be shown.

Croydon.—The ordinary meeting was held on the 23rd inst., the President in the chair. Mr. D. E. Goddard was elected a member, and Mr. Artherton was added to the council, vice Mr. Marly, who has removed from Croydon. The few remaining tickets for the AMATEUR PHOTOGRAPHER lantern show, to be held at Braithwaite Hall on the 30th, were given out, and a large and representative assemblage is expected to hear Mr. Charles W. Hastings explain the slides. A provisional scheme for holding an exhibition during 1892

was brought forward and explained by the President, and eventually approved. A vote of thanks to Messrs. Cheshire, Overton, Isaacs, White, and Artherton having been adopted in recognition of their services in fitting up the dark-room and the meeting room, and other business transacted, the Hon. Sec. passed a number of slides, by the following makers, through the lantern:—Oakley, Hirst, Cordon, Crowley, Underhill, Cheshire, Waters. The next meeting after the visitors' evening on the 30th will be on Monday, December 7th, when Mr. H. Maclean, F.G.S., will lecture on "The Open Sesame of Successful Photography."

Devon and Cornwall.—The Club held a flash-light meeting on the 16th inst. At one end of the large lecture hall a temporary platform was arranged with flash-light apparatus on the one side and a large white reflector on the opposite side. The object of the meeting was to give members an opportunity for experimenting with the magnesium flash-light under favourable conditions. With this end in view a number of simple figure subjects were arranged in succession on the platform and subjected to the scrutiny of a large battery of cameras belonging to and worked by the members. The illumination was obtained from magnesium powder, small quantities of which were ignited by three different methods. One method—for the conduct of which Mr. W. Hearder was responsible—consisted in mixing the magnesium with chlorate of potash, and then firing a small paper parcel of the mixture by the aid of a gas flame. Another method, in the charge of Mr. W. J. Tweedy, attained the same object by dusting the powdered magnesium over a carefully prepared mat of gun-cotton and then igniting the whole. In the third method the powdered magnesium was blown in a fine shower through a large flame obtained from methylated spirit. Mr. R. Hansford Worth had charge of this apparatus. All three devices gave intense and well-diffused illumination, while the flash in no case lasted for more than an appreciable portion of a second. The figure subjects were provided by various members and friends, including the following ladies and gentlemen:—Mrs. Barrington Baker, Mrs. Creagh, Miss Harewood, Dr. Aldous, Captain Burdon, Messrs. Russell Rendel, R. Smith, and S. Weeks, and Captain Waye. The subjects were:—"Little-Bo-Peep," "A Game of Chess," "Five o'Clock Tea," "Instrumental Duets," "An Egyptian Sheik," and "Little Miss Muffit." Of the above programme, which was well carried out, the Egyptian Sheik was perhaps the most notable feature. Contrary to the expectations of most present, this item was genuine, as far at least as the costume was concerned, inasmuch as Captain Burdon wore no fancy dress, but a set of apparel purchased in Egypt and duly authenticated. It is expected that the result of experiments will be on view at the meeting on December 14th. The next item on the programme of the club is an exhibition of slides on the 30th inst., taken in Brittany by Mr. A. R. Dresser.

Derby.—The usual monthly meeting was held on the 17th inst., a large number of members being present. The New Hampshire lantern slides (seventy), kindly lent by the Liverpool Amateur Photographic Association, were exhibited by means of the oxy-hydrogen lantern. The slides were excellent, and were much admired by those present, judging from the various remarks passed from time to time as the slides were placed in the lantern. Votes of thanks to Mr. Richard Keene for presiding, to Mr. C. J. Chadwick for giving the connective readings to the slides, and Messrs. Mills and Scotton for working the lantern, were passed, this bringing to an end a very enjoyable and instructive evening. For the information of those who may be desirous of joining the society, we have pleasure in stating that the Hon. Sec. is Mr. Thomas Scotton (of 9, Church Street, Derby), who will gladly send copies of rules, etc.

East London.—The first annual exhibition of this Society was held on the 17th inst., and proved a great success. There were in all about 200 photographs exhibited, consisting of landscapes, marine views, architecture, portraits, groups and enlargements, which were hung very tastily, reflecting great credit upon the stewards who were responsible for carrying out the hanging and decorations. The prints for competition were previously judged by the Editor of the AMATEUR PHOTOGRAPHER, who made his awards as follows:—Class A (Landscape and Marine Views), Mr. Sedgwick; Class B (Portraiture and Groups), Mr. Pasco; Class C (Instantaneous Work), Mr. C. Tyler; D (Architecture), Mr. Pasco. The special medal for the best picture shown, irrespective of class, falls to Mr. Pasco, for portrait of chorister. The rule of competition being that a member cannot receive more than one prize, "except special prize winner," the prize for portraiture falls to Mr. Wilkinson. Medals will be awarded to first-prize winners, certificates to second prize winners. There was a numerous assemblage of visitors, who greatly admired the exhibition, and all seemed to thoroughly appreciate the splendid collection of lantern slides kindly shown by Mr. J. E. Wren (a member) by aid of his triple lantern.

Faversham.—The usual monthly meeting was held on the 17th inst., Captain Hooper (Vice-President) in the chair. The chief business of the evening was a very ably treated paper on "The Chemistry of Photography," by Mr. Laxon, who, commencing with a

history of the chemical processes which have at various times been used, led up to the chemical composition and reactions of the ordinary gelatine dry-plate in the various processes it passes through. A list of the chemicals mostly employed at the present time and their preparation (illustrated by specimens) concluded a very interesting paper, for which Mr. Laxon received the best thanks of the meeting. The AMATEUR PHOTOGRAPHER Competition Prints (set 24) were on view and carefully inspected by the members; forming a welcome item in the evening's programme. It was decided to hold a special committee meeting to make the necessary arrangements for the exhibition of the AMATEUR PHOTOGRAPHER Prize Lantern Slides on December 15th, an evening which is being looked forward to by others in the town besides our members.

Glasgow and West of Scotland.—On the 16th inst. the usual monthly meeting was held, Mr. John Morison, jun., President, in the chair. After the usual business, a paper was delivered by Professor A. Humbolt-Sexton, of the Technical College, on "Kallitype and Kindred Printing Processes," of which he gave a very able demonstration. There was exhibited a very large and fine collection of lantern slides, and the proceedings terminated by a hearty vote of thanks being given to Mr. Sexton for his very interesting remarks.

Glasgow.—The first general meeting of the session was held on Friday evening, November 6th, in the Philosophical Society's Rooms, 207, Bath Street, Mr. William Lang, jun., F.C.S. (President), in the chair. Mr. H. M. Smith, of the Eastman Company, gave a lecture on the "Kodak" camera, and, by means of the Society's lantern, showed a large series of views taken with the Kodak. At the close of Mr. Smith's lecture, a business meeting was held, when four new members were elected, viz., Messrs. John Westall King, James Colville, M.A., D.Sc., James H. Whiteford, and G. R. Amy. The following gentlemen were appointed office-bearers for the ensuing year:—President, Mr. William Lang, jun., F.C.S.; Vice-Presidents, Messrs. J. Craig Annan and Archibald Watson; Council, Messrs. W. J. McIlwrick, A. Mactear, George Mason, John Annan, James Gardner, and Wm. Brown; Treasurer, Mr. George Bell; Secretary, Mr. Fred Mackenzie. A new collodion ferrotype plate of Nievsky's was shown to members.

Greenock Camera Club.—The monthly meeting was held on the 19th inst., and there was a good attendance. The President (Mr. T. L. Patterson) occupied the chair. Mr. Blake was proposed and duly elected a member. Mr. G. W. Paton read a paper on "Enlarging on Bromide Paper," and afterwards gave a practical demonstration of his mode of working. By the aid of his enlarging apparatus, and using ordinary gas as the illuminant, he enlarged two half-plate negatives up to 12 by 10. On developing the exposed papers he produced very fine results. A discussion on the subject followed, after which, on the motion of the President, a hearty vote of thanks was awarded Mr. Paton. The President reported that the Council were making satisfactory arrangements in connection with the club's exhibition to be held in January. He mentioned that several of our local photographers had agreed to exhibit, and that out of the five lantern entertainments to be given in the evenings during the period of the exhibition, three had been fixed, and it was expected that the other two would be arranged in a few days.

Herefordshire.—A lantern evening was held on Wednesday last, November 18th, in the Council Chamber (by the kind permission of the Mayor). There was a large attendance, including several ladies. The American interchange series of slides were shown. Mr. Alfred Watkins and Mr. M. Roberts very kindly manipulated the lantern, and the Hon. Treasurer (Mr. W. E. Haines) read the description of each slide as thrown upon the screen. The scenes comprised several instantaneous snap-shots of yachts, steamers, and other vessels, also ice scenes, and some showing rapids and glens, including the Niagara Falls, and several slides of a rather humorous nature. About a hundred altogether were thrown upon the screen, which concluded the evening's entertainment.

Holborn.—At the meeting on the 20th inst., Mr. Fred Brocas in the chair, Mr. J. G. Hudson demonstrated with the "Kolm," a light for taking portraits at night. The apparatus was shown at the P.S.G.B. exhibition, and has also been demonstrated before the members of that Society at one of their meetings. It is an arrangement whereby magnesium is blown into a spirit flame, giving a steady light for any length of time necessary to take a portrait. The light is shown behind ground-glass, and the smoke is carried away by a curved funnel. It burns very little magnesium and gives an excellent light. It is a simple though ingenious contrivance, and serves its purpose admirably. Mr. Hudson exposed half a dozen plates in the room on single portraits and a group. These were afterwards developed, and turned out exceedingly well. The arrangements for patenting the "Kolm" have just been completed.

Lewisham.—On the 20th inst. a very excellent paper was read by Mr. Valentine Blanchard on "Art in Relation to Photography," illustrated by drawings and lantern slides from celebrated pictures by Turner, Robinson, Gibson, Sutcliffe, Sawyer, etc., etc. He

fully explained the artists' methods of composition, and showed as a contrast what not to do, especially as regards groups. The next meeting is on December 4th, when the Autotype Company will give a demonstration.

North London.—Next meeting will be held on December 1st at Wellington Hall, Islington, at 8.15 p.m.; optical lantern night. Visitors are invited.

North Middlesex.—The last meeting was held on the 29th ult., Mr. J. Saville in the chair. Mr. F. E. Jones read a paper on the working of black and sepia platinotype paper, demonstrating his points as he went along. Mr. Jones said that many who had not tried the process were under the impression that it was difficult to work. Mr. Jones developed some beautiful sepia prints, answered satisfactorily many questions, and received a vote of thanks for the interesting paper and demonstration. One member was elected and three candidates for election proposed. The remainder of the evening was devoted to making arrangements for the exhibition on December 4th.

North Surrey.—A most interesting, well attended, and thoroughly enjoyable meeting was held on the 18th inst. After the routine business was disposed of, the new lantern was brought into requisition, and several members availed themselves of the opportunity to pass their recently made slides through. These were freely criticised, and although general commendation was bestowed upon the majority, as photographic productions, considerable adverse criticism was expressed upon the employment of unsuitable and inartistic masks. An animated discussion upon various interesting subjects brought the meeting to a close at a rather late hour. At the next meeting, which takes place on Tuesday the 1st December, Mr. Waltham, a member of the Society, will exhibit a series of slides illustrative of his recent tour through Algeria.

Oxford.—On the 17th inst. Mr. H. Minn, Hon. Secretary, gave a succinct lecture on "Collodio-bromide Emulsion Making for Transparencies." The making of the pyroxyline, collodion, and the use of it, was clearly explained. The coating, exposure, development, fixing, and varnishing was next dealt with; the remarks being illustrated by making a half-plate transparency of Barton Abbey, Oxon. This very interesting evening was brought to a conclusion by a discussion on the subject, and by passing a vote of thanks, proposed by Mr. J. H. Salter, seconded by Dr. Stark. Mr. W. W. Fisher, M.A., Corpus Christi College, Aldrichian Demonstrator in Chemistry, was elected a member. It was decided to have conversational meetings on two Mondays in each month.

Richmond.—On the 20th inst. Mr. Cembrano presided, and Mr. Herbert Fry gave a demonstration of the "Development of Opals and Ivorytypes." After some remarks on the relative merits of the ferrous oxalate and hydroquinone developers, and the advantage of an acid fixing bath (hypo and acid bi-sulphite of soda) in substitution for the usual acid clearing bath before fixing, Mr. Fry proceeded to expose and develop with hydroquinone an opal and a celluloid (or so-called ivory) film, very beautiful results being obtained. He clearly explained the processes, and gave formulae as he went along, and afterwards replied to various inquiries of members, of whom there was a strong muster. In the report of last week's meeting, caramel with *glycerine* was inadvertently written for caramel with *gelatine*. If anyone has tried the former backing, the reporter sincerely hopes he may live till it is dry.

South London.—The third annual exhibition was held on Monday and Tuesday, Nov. 16th and 17th, when about 400 pictures were on view. Amongst them was a quantity of the work of Mr. F. W. Edwards, the esteemed President of the society, but not for competition. The judges were Messrs. Cembrano, Pringle, and Leon Warnerke, whose awards were as follows:—Silver medals: For the best general exhibit, Mr. Oakden; portraiture, Mr. Kirby; for the best picture, half-plate and under, Mr. Whitby; over half-plate, Mr. T. S. Bailey. Bronze medals: For local views, Mr. Howell; lantern slides, Mr. W. Rice. Mr. Esler was awarded a special bronze medal for the excellence of his exhibit. The attendance was large, and some excellent work was sent in.

Spenn Valley.—Dr. Farrow (President) presided over the meeting on the 18th inst. A profitable discussion on lantern slide making was introduced by Mr. E. Smith, and participated in by the President, Messrs. J. H. Jackson, A. H. Knowles, B. H. Goldthorp, the Secretary (E. Hirst), and others. Later in the evening Mr. W. H. Wright read an able paper on "Alpha Paper." He claimed as advantages for the paper (1) that it was a very pleasant process to work, (2) that it would give almost any tone from black to bright red, and (3) that it combined many qualities of the silver and chloride papers with a good share of the rapidity of the bromide paper. Its keeping qualities were also very good. He then described the actual process of working the paper. Although in this, as in other processes, the best negative gave the best result, there was great latitude in choice, and a passable print could be obtained on Alpha paper from a very thin negative, one which was no good for silver paper. The

density of the negative and the distance from the light were not the only factors that controlled the exposure, but also the desired tone of the print, and in order to get a nice tone he had found it necessary to give longer exposures than were recommended by the makers of the paper. Iron developer was, no doubt, far the best for Alpha paper. Mr. Wright produced a number of specimen prints and one enlargement, the whole of which he had prepared for the evening. Some of them were remarkably good and showed what the paper was capable of. A discussion followed.

Sutton (Surrey).—On the 3rd inst. the ordinary general meeting was held in the society's rooms. Some lantern views by members were shown, and Mr. Baker exhibited some excellent half-plate negatives he had recently taken in Venice and other Continental cities. A proposal was made by Mr. Murchison to the effect that members of the Parent Society (the Sutton Scientific and Literary Society) wishing to join the photographic section should signify the same in writing, the fees, and custom of sending negatives previous to election, being abolished.

Wakefield.—On the 20th inst. an ordinary meeting of members was held, Mr. A. W. Stanfield, J.P., President, being in the chair. The proceedings were of a practical and conversational nature, and consisted chiefly in the inspection and discussion of local views executed by gentlemen present. Some beautiful prints done on the new Ilford printing-out paper were exhibited by Messrs. Stanfield, G. F. Firth, J. H. Chaplin, and C. W. Richardson, proving that excellent results can be accomplished on the new material, which had been lectured upon at the previous meeting. The President introduced a discussion on the differences which exist in the exposure tables published by Wornald and those by Burton. He had, he said, written to Mr. Wornald. Other matters of interest having been discussed, the meeting closed with the nomination of three new members, viz., Miss Withington, of Woolley Park, and Mr. S. Bottomley and Mr. J. A. Bean, of Wakefield.

West Kent.—The usual meeting was held at Sidcup on the 20th inst. the President (Mr. Andrew Pringle) in the chair. The minutes of the previous meeting having been read and passed, the proposed testimonial to Dr. Maddox was brought before the meeting, and several donations were given by members. The President then gave an address on the principles involved in enlarging on bromide paper. Condensers were first treated, their size, focal length, construction, and functions; the projection lens was then discussed, and its relation to the condenser. The lecturer described apparatus for enlarging by daylight and artificial light, and used drawings in illustration of his remarks. A few words were said about the relative merits of daylight and artificial light, and hints were thrown out on the weak points of enlargements, and on the best way to overcome the difficulties. Lively discussions and questions to the lecturer followed, and fresh points elicited thereby. Mr. Clare described his method of using an argand gas-burner and a reflector; other members joined in the discussion.

Wigan.—The adjourned annual meeting was held on the 19th inst. The President, the Rev. G. F. Wills, occupied the chair. Several important alterations to the rules were made. In future the meetings will be held on Wednesday evenings in the large room adjoining the Victoria Restaurant, King Street. The annual subscription was increased to 5s., with a lower fee of 2s. 6d. for junior members under twenty-one years of age. The following officers were elected:—President, Mr. H. H. Wragg; Vice-President, Mr. J. A. E. Lowe; Other members of Council, Rev. J. S. Barnes and Messrs. W. A. Varley, J. Smith, F. Hughes, J. H. Atherton, W. Heaton, and R. Wardman; Hon. Librarian, Mr. G. R. Newman; Hon. Treasurer and Secretary, Mr. Fred Betley. Two gentlemen, Mr. H. Gorst and Mr. S. Richardson, were proposed as members. The first meeting at the new head-quarters will be held on Wednesday, December the 2nd, 1891.

Woolwich and District.—At the ordinary fortnightly meeting on the 17th inst. the lecture and slides entitled "Illustrated Boston" were delivered and exhibited to an audience of about one hundred members and friends, and a very pleasant and instructive evening was spent. The members' lantern slide competition will be held on Tuesday evening, the 1st December, at 7.30 p.m., at the Rectory Place Schools. The entries for the landscape competition will close on the 1st of December.

Schaeffer's Photographic Silk.—We have received from Messrs. Arthur Schwarz and Co., Dashwood House, 9, New Broad Street, E.C., a specimen of the results to be obtained on the new sensitized silk which they have introduced, and an advertisement of which appears in this issue. The silk is printed and treated in exactly the same way as albumenized paper. We propose to give a leader on this novelty next week, pointing out some of the methods of utilising it for Christmas and New Year cards.

To Correspondents.

All communications for these columns are to be addressed to **The Editor, "Amateur Photographer," 1, Creed Lane, Ludgate Hill, London, E.C.**

RULES.

1. Write clearly and distinctly on one side of the paper only.
2. Write each Query or Answer on a separate sheet of paper.
3. Write the name and address legibly on the back of each communication, and sign all Queries and Answers with name or *nom de plume*.
4. All matters for these columns MUST be received by TUESDAY MORNING'S POST.
5. The Editor does not undertake to answer questions by post.
6. In answering Queries, correspondents are requested to mention, in every instance, the number and full title of the query referred to.

QUERIES.

5241. **Saturated Solutions.**—I am in the habit of keeping hypo and alum in saturated solution, and using 1 part of hypo solution to 2 of water for fixing negatives, and 3 of water for prints; 1 part alum solution and 1 water for negatives and aristotype prints. Are these proportions right? Will someone kindly tell me the proportion of hypo and of alum in saturated solutions at a normal temperature (say 60 deg.)? —H. L. S. R.

5242. **Negatives.**—I find a kind of black bloom appear on some of my negatives which have been developed by hydroquinone and well washed. What is this? How can it be removed? —H. L. S. R.

5243. **Ghost Pictures.**—How are ghost pictures made? I mean, what length of exposure is required to be given in a well-lighted room, first for the room, and secondly for the person to be made a ghost of? In fact, I should be glad of full particulars respecting them. —RUSHALLITE.

5244. **R.R. Lens.**—I use a Wray's rapid rectilinear lens, and want to know if it is possible to use half or a portion of the lens in any way for taking a photograph of any kind. —TERMINI.

5245. **Lantern Plates.**—What lantern plates can be recommended as best by the experienced readers of the AMATEUR PHOTOGRAPHER? A reply will oblige. —TERMINI.

5246. **Intensifier.**—Can any reader give me a formula for a very strong uranium nitrate intensifier? —TERMINI.

5247. **Actinometer.**—I shall be glad of instructions for making an actinometer to time the exposure of plates. Full particulars will oblige. —TERMINI.

5248. **Filtering Fixing and Toning Baths.**—I shall be glad if the following can be answered by the readers of the AMATEUR PHOTOGRAPHER. Is it in any way weakening my fixing and toning baths by filtering them after using? —W. H. E.

5249. **Framing.**—Having a number of bromide enlargements I wish to frame. I should be glad of a reader's opinion as to which is the best make, pattern, etc., frame to use for this work. —LITHO.

5250. **Laverne's Adapter.**—Will any one who has tried Laverne's universal adapter for lenses give an opinion as to its value? —O. J.

5251. **Fry's Sulphoknone.**—Could any kind reader who has had experience with Sulphoknone developing solutions, as sold by the Fry Manufacturing Company, inform me of any precautions that need be taken in the use and preservation thereof? Any hints would oblige. —W. G.

5252. **Toning Bath.**—I should be glad to know if the bicarbonate and acetate toning bath No. 2, on page 250 of Wall's "Dictionary of Photography" is reliable and of good keeping qualities, and if the tones obtained therefrom are of a pleasant nature. —W. G.

5253. **Leather Hinges to Dark Slides.**—I find that the leather in my dark slide affects the dry plates and causes them to fog. Is it the tannin in the leather? If so, is there any remedy for it, or will the strength of the tannin go off in time and cease to affect the plates? —C. OSMOND.

ANSWERS.

5186. **Lerebours Lens.**—I should advise "Aplatic" to try a plate in his camera, and see the result. —W. H. ELLIS.

5190. **Lantern Slide Colouring.**—Should you not write to Mr. Whittaker, the manufacturer of the colours, and see what he says? —W. H. ELLIS.

5219. **Size of Image.**—I am afraid we cannot get much further, because of this "maximum distance of yards"—but this is a formula for your first case:—

Let F = focal length of lens, then $F = p \times \frac{72}{(75)^2}$ (that is the distance multiplied by the ratio of image to object, divided by the square of the ratio number plus one, or $p \times \frac{r \text{ inches}}{(r+1)^2}$). From this we get that

$F = 5,329$; now if you find p in inches you have got the focal length. In the second case (I take it to be separate, and that 15 yards is the distance from the ground glass to the object) $F = 9$, and we must find r . You must measure the distance from centre of lens to centre of object, and call this G (greater conjugate focus).

Then $r = \frac{G-9}{9}$; thus when you have got the values for G and r , the size of image will be expressed in ratio; i.e., if $r = 10$, the image will be 1-10th the size of object. —PEN.

5219. **Size of Image.**—The formula you want is: $i = \frac{f}{D-f}$, all being in the same denomination. In your first query $D = 36$ inches, $f = 108$ inches, $i = 1\frac{1}{2}$ inches. Hence $f = \frac{36}{13} \times p$, or almost exactly

$p = 2$ inches. In your second query $f = 9$ inches, $D = 15 \times 36$ inches, $f = 108$ inches. Hence $i = \frac{108}{50}$

or a trifle over $1\frac{1}{2}$ inches. —CLIFFORD E. F. NASH.

5220. **Covering for Hand Camera.**—There are several ways of doing what you require, but the question comes, which is the most trouble and expense? Well, if you do not mind either of these, I can give you particulars for covering your hand-camera. I think the most approved way is as follows: Give your camera two coats of enamel (Aspinal's, is, I think, the best), waiting for a day before you apply the second coat; then, if you wish, do as you state, use nickel-plated fittings. The hand-camera will then, I think, stand such showers as have been witnessed by most, if not all, workers in photography this year. —W. H. ELLIS.

5221. **Vignetting Bromide Prints.**—This is a very unsatisfactory part in bromide printing, but it can be got through by laying three or four pieces of wood, about three or four inches long, and one-eighth of an inch wide and deep, upon the vignetting glass, then place the negative upon these woods, then the paper, then print, keeping the printing frame on the move during exposure. The print will, when developed, produce a picture gradually disappearing, instead of a sharp line, as stated in your query. —W. H. ELLIS.

5221. **Vignetting Bromide Prints.**—I should use a cardboard vignette covered by one or two thicknesses of tissue paper, and give a full exposure at a considerable distance from the gas or lamp. —PEN.

5223. **Washing Gelatino-Chloride Prints.**—The action of a washer on these prints is very disastrous. I lay mine face downwards in a large, flat dish of water. They must not stop more than two minutes in the first water, or else they will stain; then ten minutes in second, and five minutes in third. This is quite sufficient. Should "Thermo" use the alum bath, an after rinse of two minutes is required. —A. LEWIS.

5223. **Washing Gelatino-Chloride Prints.**—These prints can be washed in the same way as silver prints, being placed on a large dish, allowing water to run continually for six hours. —W. H. ELLIS.

5224. **Dry Plate Photography.**—The articles you mention as having been published in *Amateur Work* are undoubtedly the best series for beginners in the market. I do not think they are published separately, but think you will find they are now being reprinted in the new weekly edition of *Amateur Work*: the publishers are Ward, Lock, Bowden, and Co.—SOKO.

5226. **Negative Into a Positive.**—You can bleach an under-exposed negative with bichloride of mercury, and after washing and drying, put a piece of black paper behind it and hang up, when you will see a positive effect. —PEN.

5226. **Negative Into a Positive.**—Well wash the negative, and immerse in a saturated solution of bichloride of mercury. Here allow it to remain until bleached quite white, well wash, and dry. By placing a piece of black paper at the back we have a positive, soft and delicate. —A. LEWIS.

5227. **Ilford Formula.**—Yes. Bromide of potassium is not so strong, however; so put double the quantity. —PEN.

5227. **Ilford Formula.**—Less of the K.Br. would probably be required, but why make the change? You may be sure the plates work best with the am. bromide, or the makers would not recommend it.—ISO.

5231. **Clouds.**—Clouds should be taken from a standpoint which commands a distant horizon, as the effect is much more artistic when the distant horizon

clouds are secured. Take them with a side lighting. Splendid clouds can be got near the sun, but such negatives will be of little use, as the clouds will be lit in the wrong direction. Use a small stop and short exposure, but this, as well as the proportions of the developer, is best learnt by spoiling a plate or two. Print the view as usual, masking the sky if necessary. Lay the print face up on the hinged back of a printing frame and adjust the cloud negative to the required position. Cover up the rest of the print during exposure with a duster or piece of card, which must be kept on the move to avoid a hard line. If "W. H. E." wants to see what a good cloud negative is, I would advise him to write to W. Green, Berwick-on-Tweed—I need scarcely add I have no interest in giving the advice—for particulars of his carbon film cloud negatives. —ISO.

5233. **Enlarging.**—The best paper to use when enlarging is bromide paper. There are two rapidities—the rapid and slow. The best to use, I find, is the rapid, it taking a much shorter time to expose. The exposure required using this paper with a R.R. lens, stop $f/4$, in good light (daylight), would be between ten and fifteen minutes, on condition you are enlarging from a negative of an average density. If the negative is dense, twenty to twenty-five minutes for the most; if thin, five to ten minutes would be ample, but the real exposure required to be given can only be found out by experience, which does not take long to settle. —W. H. ELLIS.

5234. **Negative Varnish.**—Following are from Wall's "Dictionary":

Orange shellac	2 oz.
Sandarac	2 "
Canada balsam	60 gr.
Oil of lavender	1 oz.
Methylated spirit	16 "

or:
White hard varnish 15 oz.
Methylated spirit 25 "

You will buy far better varnish than you can make, unless you are very handy at such work.—ISO.

5234. **Negative Varnish.**—Negative varnish is a troublesome solution to prepare, but experience can only see that. The following formula is a good, and, in my opinion, a reliable negative varnish, viz.:

White hard varnish	15 oz.
Methylated spirit	25 "

This varnish must be flowed over the negative, and dried before a good fire.—W. H. ELLIS.

5234. **Negative Varnish.**—

Orange shellac	2 oz.
Gum juniper	1 1/2 "
Campbor	3 "
Methylated spirit	1 pint.

Mix these ingredients together, when they will, with occasional shaking, dissolve in the spirit. The gums will dissolve quicker if placed in a warm place. Filter before use. Make a paper funnel of writing paper, gum it up, and cut off the point, so that you can pass a pencil through. Into this hole push a tuft of cotton wool, and pull it through so it is held firmly. —A. LEWIS.

5235. **Retouching.**—If "Hawk" can persuade Mr. Speakman, 26, Tamworth Street, Stretford Road, Manchester, to give him lessons in retouching, he will be well treated. Terms, probably 10s. per lesson. —S. BURGESS.

5235. **Gas Light for Lanterns.**—The light is of about 150 candle-power. The diagram in advertisement explains how the burner is adapted to the lantern. The price is £5 5s.—PEN.

5236. **Gas Light for Lanterns.**—The light for lanterns sold by the Incandescent Gas Light Company is excellent, far surpasses any oil lamp, and is absolutely free from smell. Probably is not equal, or, at all events, not superior to the oxy-hydrogen light. If in or near London, go and see it. The Company willingly show it to visitors in a room specially carkened, with lantern and screen to show slides.—SOKO.

5238. **Exposure for Enlarging.**—The exposure required for enlarging this time of the year at mid-day is a difficult question to answer, as it all depends on the density of the negative and rapidity of paper used. If you are using rapid bromide paper (which is the best), enlarging from a negative of usual density, using stop $f/18$ or thereabouts, the exposure required in a good light would be between 10 or 20 minutes; 15 minutes I think the best exposure to be given. But if same paper is used, dull light, dense negative, with small stop, 20 to 40 minutes will not be too much. The figures I am giving you are not, I am afraid, so correct as to enable me to guarantee them, but these are as near as I can guess. The only, the best, and the cheapest way to settle this question is to expose two or three pieces of paper, different exposures, and develop and see which brings out the best picture; in other words, experience is far better than any number of books, lectures, or help from any person who perchance may try to help you.—W. H. ELLIS.

5238. **Exposure for Enlarging.**—This can only be found by actual trial, as the character and colour of negative, number of times of enlargement, dullness or the contrary of the weather, etc., have all to be considered.—ISO.

5239. **Exposing Plates Twice.**—The standard which photography has reached has not yet brought forward any method by which a plate can be protected from being exposed twice; this will, I think, follow for

QUERIES UNANSWERED.

Oct. 30.—Nos. 5166, 5168, 5169, 5171, 5172.

Nov. 13.—Nos. 5193, 5205, 5206, 5207, 5208, 5212, 5215, 5216.

" 20.—Nos. 5222, 5225, 5228, 5229, 5230, 5232, 5237.

both hand and tripod cameras. The only way which is possible to prevent this difficulty is to be slow and sure.—W. H. ELLIS.

5230. **Exposing Plates Twice.**—Have your slides numbered, and expose in consecutive order. If you make a note of each exposure and always expose in rotation, the habit will grow on you. It is also a good plan to stick a piece of gummed paper, such as postage stamp margin, across the edge of the shutter when you load the slides. It is then an impossibility to draw the shutter until you break the paper.—ISO.

5230. **Exposing Plates Twice.**—You should number your dark slides and only expose in rotation as far as possible. If your nerves are too much "on the stretch" to remember a number, stick a piece of stamp paper over the shutter when you have pushed it in.—PEN.

5240. **Ferrotypes Dry Plates.**—Replying to "Puzzled" respecting the above, allow me to state that, with a little practice, splendid results are obtainable if the following instructions are carried out: Expose three to five seconds, develop with special developer for about thirty seconds, then pass direct to the fixing bath, when the picture will appear.—CHAS. BAKER.

EDITORIAL.

SPECIAL NOTICE.—We are very pleased to find that replies in this column are so much appreciated, but we should be very grateful if those requiring advice would send their letters to us BEFORE TUESDAY MORNING'S post if possible. The time occupied in replying in this column is very considerable, and owing to the often late receipt of letters, many matters have to be left over each week. This we much regret.—ED: AM: PHOT:

JOHN BROOKS.—Send us up one or two prints showing defects, and state what lubricator you use.

THOS. W. SCHOFIELD.—Either the Sciopicon or Hughes' Pamphengos.

C. N. COSENS.—Technically, your print is quite up to competition standard, but it would have been more pleasing, artistically, had your punter been nearer mid-stream, so as to have broken up the centre. If your other work is equal to this, we should strongly recommend you to enter our competitions. Shall we return print?

AUBURN.—(1) Thomas's thickly-coated extra-rapid, and give a fairly long exposure, and keep down the quantity of pyro and bromide in the developer, so as to keep the negatives rather thin, and thus obtain detail in the white draperies. (2) Not necessary to back plate. (3) We should use the Suter single landscape lens. (4) You cannot do better than get the Thornton-Pickard.

H. T. MEARES.—Eastmans have a stripping film, which can be treated as you suggest.

J. C. FELL.—(73) The point of view is too distant, and the whole of the lower part of picture wants less deeply printing. (90) Ditto. (92) Good. (91) Good. (93) Again too far off. (103) Too flat. (106) The right hand of the picture is too dark. (111) Good. (116) Fair. (131) Good. (132) Good. Most of your prints would be improved by not such deep printing and warmer tones.

C. B. RYNNOLDS.—(1) The black spots are due, we believe, to the developer not being properly mixed. (2) This negative has either been warmed or else the caustic alkali in the developer was too strong or your waters warm; the film has begun to melt and run. The bromide print is fearfully over-exposed, and you have therefore reversal of the image.

JACK.—Dissolve $\frac{1}{2}$ lb. of oxalate in 32 oz. of water, and $\frac{1}{2}$ lb. of sulphate of iron in 16 oz. of water. The ferrous-oxalate developer is not suitable for an amateur's use. We cannot form any opinion from the print. Always pleased to help you.

C. W. P.—Your negative was smashed into splinters, but judging from the bits we should say: (1) The camera is a good one and (2) the lens efficient. (3) The plate was fearfully over-exposed; about 5 sec. we should have thought ample. Use only one drop of ammonia to the ounce and add more if required. (4) Give a shorter exposure. (5) The developer is rather strong in ammonia. (6) You may have the bits if they are any good to you.

G. W. RAMSAY.—It is quite possible that your cyanide was too old. Touch the spots very carefully with a weak solution of iodine and iodide of potassium, and then treat with cyanide.

TOM-TIT.—(1) Griffiths' new patent, or the new Talmer. (2) The Kodak. (3) Loman's Reflex, or Chadwick's.

B.—Sodium sulohite has no developing action, and is used with the alkali, in Mawson's formula, possibly because the hydroquinone or other reducing agent would be thrown out of solution. Sulohite prevents stain and influences the colour of the deposit in large quantities, making it whitish; in small quantities, however, it produces a good blueish-black. Is this what you want to know? If not, write more fully as to your precise difficulties.

U. R. A. MATE.—Thanks for your letter, but we hardly think the subject worth answering.

ARTHUR JANE.—Better stick to the washing soda; certainly we should have used pyro and ammonia.

J. BURGESS.—Your letter is too late to now prevent any action.

LEWELLIN ROBERTS.—Your negatives were insecurely packed; one was cracked right across, and the other started at one corner. The yellow stain is fading, due to insufficient washing; remove the varnish by soaking in methylated spirit, wash well for some hours. Treating with a 5 per cent. solution of Schlippe's salt may improve it, but we are afraid not.

F. R. CUREY.—We should certainly recommend the Talmer. You may be perfectly satisfied with one of Wray's R.R. lenses, and we do not think you will need a Kew certificate; much better ask Mr. Wray to send you a lens for a day or two's trial; he would willingly do this, and you will be far more satisfied than with the certificate.

G. P.—(1) You cannot expect to get a first-rate lens with camera at that price. You must certainly allow £2 for a lens. (2) You want a camera which will hold six or twelve plates without any changing apparatus, bags, or dark slides, but if you cut these out, there is nothing left for you at all except a roll-holder.

O'N. F. KELLY.—(1) We should recommend the 10 in. No. 3 Suter certainly. (2) We should prefer a Suter or Wray; the latter if price is an object. (3) If you are accustomed to Jacoby's, stick to it for ordinary work. The matt-surface paper gives finer results than the other when squeezed. (4) Yes, the Paget plates contain iodide. (5) Stop the development when the details of high lights are out on the back of plate. (6) You cannot do better than get a Loman's Holland camera.

A. T. BARBROCK.—The price of the burner is 10s., and it would give you a 9 ft. disc.

LEWIS.—It is our invariable rule never to answer queries when we have no name and address; if you like to forward name and address, which shall be treated confidentially, we will answer your questions with pleasure.

H. E. SHEW.—You can use the discoloured eikonogen and, provided you have the temperature of the developer about 60, it will work all right.

YPOBARI (Buenos Ayres).—You might communicate with Talbot and Eamer about their new 1891 hand-camera; they could make you one to answer all your requirements.

H. WIDDOWS.—We should recommend the Talmer; it can be relied on for good work.

G. W. LEOG.—In consequence upon the demands upon our time we are compelled to answer you here. Wray is a first-rate optician, and his work may be relied on. As to the suitability of the lens for various work, we answer in order of your queries. (1) The lens will do for portraiture, but in consequence of its relatively small aperture, f/8 as compared with f/4 of a portrait lens, the exposure will be prolonged, the relative times being one for the portrait lens and four for the R.R. (2, 3, 4, 5, and 6) It is very suitable for groups, interiors, exteriors, landscapes, and moving objects, and also for (8) enlargements. (7) The focus is 11 in., about right for a whole plate, and will include an angle of 42 deg.

H. TODD MOFFAT.—Have all the solutions and washing waters at the same temperature, keep the prints face downwards, and use a strong salt bath after toning and fixing, or add one part of methylated spirit to every four parts of fixing solution. If you can use Wilson's paper, we should certainly advise you to stick to it; if not, try Charles', Scholzig's, Edwards', or Mucklow's. Do not wash more than six hours at the outside.

F. W. A.—We shall be very pleased to criticise your prints for you in the book, but you would have to give us time, as we are very busy now. You will receive "Photographs of the Year" in due course.

B. QUICK.—You should have a little patience with those who have not quite such a cool nerve as you.

T. H. P. H.—The prints are on the rounds, and bromide paper starts this week. We sent the lens we thought advisable.

BEE.—You will find the 63s one the better of the two. (2) You can use the eikonogen developer for plates, but it would be rather slow.

FLORIDA.—The camera is well made and good value for the money. We are glad to hear that you have found so much benefit from the "Dictionary" and the "AMATEUR PHOTOGRAPHER'S ANNUAL."

E. BUCK.—Mr. Thos. Scotton, Photographer, Derby, has some very fine photographs of locomotives.

H. PERCY HOLMES.—Will try and arrange about the 1891 "Prize Slides," and let you know later on. You will have received "Photographs of the Year."

ARTHUR J. CROSS.—We have advised our correspondent. Many thanks for your note.

C. HETHORN LEWIS.—Your letter is inserted, also a paragraph re change of address.

W. G.—You cannot expect a quarter-plate lens to cover a half-plate.

S. A. WARBURTON.—It has been thought expedient not to continue the discussion.

W. H. ELLIS.—Next week.

JOHN BROOKS.—"Experimental Photography" (Leaper), 1s.; "Dictionary of Photography" (Wall) 2s. 6d.; "Amateur Photographer's Annual," 1s. 6d. All to be had of Hazell, Watson, and Viney, Ltd., 1, Creed Lane, London, E.C.

J. R. RATCLIFFE.—Will be sent on next week.

TALBOT AND EAMER.—Contents of your letter duly noted.

F. A. PHILLIPS.—The querist has, we believe, obtained the negative he wanted.

NEWCASTLE.—Hubert's "Art of Retouching," price 1s., from our publishers. Do you want to print in platinum or tone silver prints with platinum? You would find instructions for the first in Wall's "Dictionary of Photography," price 2s. 6d., or Lyonel Clark's "Platinum Toning," price 1s., will give you full information on the latter point; both from our publishers.

W. H. ELLIS.—You can get the "scales" at Messrs. Adams' or Mr. Jonathan Fallowfield's.

C. GOODWIN NORTON.—We shall wait until the inquest has been held before making any comment.

J. H.—The only apparatus which will answer for enlarging on to albumenised or aristotype paper direct is either Woodward's Solar camera or Monckhoven's Dialytic apparatus, the cost of the latter being £80; it might be possible to get one second-hand. It would be far preferable to make a small transparency and from that an enlarged negative, and use the latter for contact printing.

Sale and Exchange.

RULES.

CHARGE.—Twelve words or less for Fourpence. Every additional three words, one penny. The name and address of the sender must be paid for.

(A single figure, or group of figures undivided by letter, space, stop, or words, counts as one word; compound words count as two words.)

DEPOSITS.—The money for goods forwarded on approval may be deposited with the Publishers of the AMATEUR PHOTOGRAPHER, who will hold the amounts deposited until they are satisfied that the transaction has been completed to the satisfaction of buyer and seller.

COMMISSION.—A charge of 2½ per cent. will be deducted from all deposits whether a sale is effected or not. Minimum charge 1s.

PAYMENT. All payments are to be by cheques or Postal Orders, made payable to Hazell, Watson, and Viney, Ltd., 1, Creed Lane, London, E.C. **PAYMENTS** should be made in Postal Orders or Postage Stamps.

REPORTING.—Apparatus may be sent to the Editor, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C., who will report upon the apparatus to the buyer for a minimum fee of 2s. 6d., or a commission of 2½ per cent., upon the sale price of the apparatus.

ADVERTISEMENTS can be inserted under a number, the name and address being registered, and letters forwarded for a fee of 3d. to cover postage.

ADDRESS.—All advertisements (which can be received up to Wednesday morning, 9 a.m.) and other communications having reference to the "Sale and Exchange" column, must be addressed "Sale and Exchange, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C."

CARRIAGE must be paid on all apparatus sent for report, and they will be returned carriage forwarded.

Backgrounds.—Pair of backgrounds, interior and exterior, high-class, 8 ft. by 8 ft., on rollers, complete, not soiled; 50s. the pair; worth double.—3, Waverhill Road, Handsworth, Staffs.

Bicycle.—Diamond-frame ball-head Safety, 2 in. clincher pneumatic tyres; worth £20; price £11.—Cyclist, 7, Dereham Road, Norwich.

Cameras, etc.—Half-plate International camera, latest pattern, as new, two mahogany, three metal slides; cost 90s.; take 65s.—Grover, 40, Coniger Road, Parsons Green, S.W.

Photo-micrography, quarter camera, long baseboard, turntable for microscope; 15s.; bargain.—Burr, Westgate, Gloucester.

Cameras, Lenses, etc.—Copying and enlarging camera, 12 by 10, 36 in. cloth bellows, 4 ft. sliding baseboard, adjustable easel, wide-angle rectilinear lens (all by Houghton), suitable for paper, opals, plates; seen by appointment, and tested; price £10; or camera separately, £5.—W. Gamble, 57, Chancery Lane, London.

Hand Cameras, etc.—Automatic hand-camera (Houghton's), new, in perfect order, with waterproof canvas bag, carries one dozen quarter-plates, R.R. lens, fitted with Thornton-Pickard special shutter, working up to 1-200th; cost £7 18s. 6d.; what offers?—Hartness, care of Defaye, Chemist, Jersey.

Underwood's, 9 by 7, lands cape lens, f/8, Iris stops, quite new; cost 27s.; sell 20s.; approval.—Storey, Alston, Cumberland.

1891 Talmer No. 2, polished mahogany, nearly new; price 50s.; specimen print, 3 stamps.—Minshall, University College, London

Lanterns.—Hughes' Pamphengos; £3 10s., or offers.—H. Short, Perryn Road, Acton.

Patent Metamorphoser lantern, with slides. Wanted, superior feather-weight whole-plate camera.—Couch, 11, Waterloo Crescent, Dover

Lantern Slides.—"A Day at the Zoo," set of 12 photographic lantern slides from life; price 10s. 6d.—H. Selwyn, 154, Queen's Road, Bayswater.

Lenses, etc.—£7 2s. 6d. Optimum 12 by 10 R.R. lens; £5; or exchange good quarter or 5 by 4 hand-

The AMATEUR PHOTOGRAPHER

Telephone N^o 1645 Telegraphic Address: VINEY, LONDON

Office: 1, Creed Lane, Ludgate Hill, London, E.C.

No. 374. VOL. XIV.]

FRIDAY, DECEMBER 4, 1891.

[PRICE TWOPENCE.]

OUR VIEWS.

"To hold as 'twere the mirror up to nature,"—Shakespeare.

OUR VIEWS.—AMATEUR PHOTOGRAPHER 1891 Prize Slides—Selby Photographic Society—Woodbury Permanent Photographic Co.—The Instantostat—Temple Bar—Society for Forfar—Photography as an Aid to Education—Teachers' Guild—Tunbridge Wells Exhibition—AMATEUR PHOTOGRAPHER Junior Photographic Exhibition—Flash-Light Photography—Cape Town Photographic Club—The Optical Lantern—Suggested Examination in Working the Limelight—Wolverhampton Societies' Exhibition—AMATEUR PHOTOGRAPHER Ladies' Second Photographic Competition.

LEADER.—The Ilkeston Explosion.

ILLUSTRATION.—"Greenwich Hospital," by A. R. Berry.

LETTERS TO THE EDITOR.—The P. S. G. B. Medal (A Former Member)—Lenses (E. J. Wall—C. Hetherton Lewis)—A Plea for Composition in Photography (Fred Davis).

ARTICLES.—Photographic Procedure (Wall)—Study and Practice of Art in Field Photography (Horsley Hinton)—The Artistic Use of a Hand-Camera (Andrews).
NOTES.—Thursday Evenings at the Camera Club—Quarterly Examinations in Photography.

APPARATUS.—Thornton-Pickard Time Shutter—Xylonite Dishes—The Doré Lantern Slide Printing Frame—Eikonogen Cartridges—Griffiths' Lantern Slide Camera.

SOCIETIES' MEETINGS.—Aberdeenshire—Ashton-under-Lyne—Barrow-in-Furness—Bath—Birmingham—Bristol—Cheltenham—Cornish—Coventry and Midland—Derby—Devonport—Douglas (Isle of Man)—Dundee and East of Scotland—Exeter—Fakenham—Frome and District—Glenalmond—Holborn—Hull—Liverpool—Loughborough—Newport—Newcastle-on-Tyne—North Kent—North London—Nottinghamshire—Oldham—Phot: Soc: of Great Britain—Phot: Soc: of Ireland—Richmond—Shropshire—Wakefield—West London—West Surrey—Wolverhampton.

EXHIBITIONS.—Tunbridge Wells.

AMATEUR PHOTOGRAPHER MONTHLY COMPETITION.—Seascape and River Scenery.

EDITORIAL DEPARTMENT.—All Literary Contributions, Queries and Answers, Photographs for Competition or Criticism, Books or apparatus for Notice or Review are to be addressed to the EDITOR, AMATEUR PHOTOGRAPHER, 1, CREED LANE, LUDGATE HILL, LONDON, E.C. (*All Communications should reach the Editor on Tuesday.*)

TERMS OF SUBSCRIPTION—

UNITED KINGDOM.....	Six Months, 5s. 6d.....	Twelve Months, 10s. 10d.
POSTAL UNION	6s. 6d.....	13s. 0d.
OUT OF POSTAL UNION	7s. 9d.....	15s. 3d.

TRADE ADVERTISEMENTS are received up to Tuesday morning.

PUBLISHING DEPARTMENT.—All letters containing Subscriptions, Orders Remittances, SALE AND EXCHANGE Advertisements, or other business matters for the AMATEUR PHOTOGRAPHER are to be addressed to the Publishers, HAZELL, WATSON, AND VINEY, LD., 1, CREED LANE, LUDGATE HILL, LONDON, E.C. (SALE AND EXCHANGE Advertisements, at the charge of *Three Words for One Penny*, can be received as late as WEDNESDAY MORNING.)

"Amateur Photographer" "Holidays with the Camera" Competition (Second Year)—Prizes: Gold, Silver, and Bronze Medals, and Certificates; with special prizes of "Niece" or progressive medals for past prize-winners. In all, *twelve prizes* will be placed at the disposal of the judges.

SUBJECTS.—All photographs are eligible that have been taken during the "Holidays," but must be landscape or sea pieces, with or without figures, views of town, photographs of cathedrals, churches, public buildings, etc., but NOT *portraiture, figure study, or pictures which could be classed as "Photographs at Home."*

DATE.—All photographs must be received on or before the 31st of December, 1891.
RULES, CONDITIONS, AND ENTRY FORMS will be forwarded on receipt of stamped addressed envelope. The application should be addressed, "HOLIDAYS WITH THE CAMERA," Editor, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C.

"Amateur Photographer" Monthly Lantern Slide Competition, No. 8—"FIGURE STUDIES AND HUMOROUS PICTURES." Latest day, DECEMBER 17TH.—Two Slides to be sent in. Entry Forms, etc., on receipt of stamped envelope. Address: Editor, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C.

Members of the Editing Staff are "At Home" on Monday afternoons from Two till Five o'clock, and they will gladly give advice upon all photographic matters.

WE continue to receive applications for the AMATEUR PHOTOGRAPHER 1891 Prize Slides, but all dates to the middle of April are now practically booked, so that it will save some disappointment to applicants and considerable work to ourselves, if our readers will bear in mind that the Prize Slides cannot now be had on loan. We can supply other assorted sets of slides, forty-eight in a box, and also sets of "c" photographs selected from those contributed to the AMATEUR PHOTOGRAPHER Monthly Competitions, which may be had on loan by photographic societies and others by complying with our conditions, which will be sent on receipt of stamped addressed envelope.

THE Selby Photographic Society has got to work. The President has been elected in the person of the Rev. G. A. Tweedie, M.A.; Hon. Secretary, Mr. W. N. Cheesman, The Crescent, Selby. We understand that the Society has a commodious club-room, with dark-room, etc. A course of systematic instruction in photography is now being conducted by Mr. J. C. Thompson, one of the Vice-Presidents.

IT will interest many of our readers to know that the Woodbury Permanent Photographic Company (Eyre and Spottiswoode, proprietors) have issued a very useful little manual, "Instructions in the Carbon Process of Permanent Photography for Amateurs," which gives simple details for working, and full particulars of material, apparatus, etc.

MANY of our readers will be quite familiar with the very enterprising publication, *Hearth and Home*. The editor has from time to time formed guilds, art and literature being so far the only subjects attempted; but we now note that a "Photographic Guild" has been started. The prospectus says:—"So popular has photography become with amateurs, that we doubt not a great many will welcome the opportunity of testing their efficiency and of having wholesome criticism passed on their works." Prizes are offered, and some of the photographs will, we understand, be reproduced.

A SUBSCRIBER informs us that a "new appliance for the hand-camera is announced, which if it carries out the anti-

cipation of its inventor, will give in a double sense stability to the apparatus, inasmuch as by overcoming the great defect of unsteadiness during exposure, it will give the camera a more assured position in the photographic world. The invention consists in attaching to the camera a couple of gyroscopic discs, which are thrown into rapid rotation by the act of exposure. The discs, which are not heavy, are contained within the camera, and their planes of revolution are at right angles; thus one disc may be close to the floor of the camera, and the other close to one side, there being tangential contact between them. When rotating, each disc has a strong tendency to keep its own plane in space, so that the camera cannot be turned in any way without the application of considerable force. The camera may, of course, be moved bodily parallel to itself whilst the discs are rotating. It is, however, the movements of rotation which are mainly responsible for blurring the image. The new appliance is called the 'Instantostat,' and can, it is said, be readily fitted to any camera."

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MR. W. G. BENNETT, of Waltham Abbey, has sent us a very excellent photograph, on Ilford paper, of Temple Bar, which has been re-erected near Waltham Cross. We shall reproduce the picture, as our illustration, next week.

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A PHOTOGRAPHIC society has been formed at Forfar. Mr. J. W. Craik was elected President, and Mr. Fowler Hon. Secretary and Treasurer. Considerable support is promised

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At the last meeting of the Teachers' Guild, Plymouth, Mr. W. George Tweedy, B.A., delivered a very interesting lecture on "Photography as an Aid to Education." He said:—"Photographic lantern slides were a means of instruction. Reference was made to the use of the lantern in recent Church History lectures at the Plymouth Guildhall, the ease with which the slides are produced by photography being noted. The actual cost of the materials used was stated to be only 2d. each, and anyone possessing the necessary skill and a guinea camera ought to be able to make negatives and lantern slides from any objects he wished to show. A good lantern with full-sized condensers, and capable of showing, with paraffin oil, a picture of eight feet square can now be got for 30s., and the same lantern can be fitted for the use of the limelight for about £2. He recommended all teachers to learn photography, and the best way was to join the Devon and Cornwall Camera Club, where they would have the photographic papers to read, a dark-room and skylight studio to practise in, and fortnightly meetings to ask questions."

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The preceding paragraph is a very appropriate preface to a few remarks we should like to make upon the work of the Teachers' Guild. We understand from the report of the Council of the Guild, which is published in the last issue of the *Journal of Education*, that:—"It is proposed to make a collection of lantern-slides, to be kept at the offices of the Guild, for loan to members. Mr. William Rice has promised a duplicate set of a prize-medal series of slides, as then nucleus of such a collection. Amateur photographers are invited to contribute any spare slides of a specially educational character which they may possess. Parcels should be addressed to the offices of the Guild, 74, Gower Street, London, W.C." This action on the part of the Council of the Guild will enable many of our readers to do a good work with slides which have served their purpose in the immediate district in which the owner lives. We take

it that slides of geographical, historical, geological, botanical, and microscopical interest will be especially useful. The slides are really needed for the use of teachers, and to illustrate lessons upon scientific and technical subjects. In these days of technical education, too great stress cannot be laid upon the use and usefulness of the optical lantern. We shall hope to make a liberal contribution from our accumulated lantern slides, which will at least help in a small degree this very admirable work. We cordially ask our many subscribers to hand over to the Teachers' Guild those slides which too often lie mouldering in the dark corners of many a dark-room, and which when brought to light and placed in other hands will give instruction and amusement to many.

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THE photographic exhibition held last week under the auspices of the Tunbridge Wells Amateur Photographic Association was well attended. The members' work might have been of a higher standard, but the society is small, although it is by no means lacking in enterprise. Most of our best workers competed in the open classes. Sir David Salomons as patron and Mr. F. G. Smart as President give standing to the society, and the exertions of the Hon. Secretary, Mr. Joseph Chamberlain, have gone far to make the work of the society a success. The exhibition is mainly due to his energies, and he has every reason to be proud of the splendid show of photographs gathered from all parts of the kingdom at Tunbridge Wells. We shall call attention to the prize winners' work in our next issue. Each evening the optical lantern was brought into requisition under the able management of Mr. Cornell. A crowded audience assembled last Friday evening, when the AMATEUR PHOTOGRAPHER 1891 Prize Slides were shown, Mr. Smart presiding. We believe the other entertainments were equally well attended, and we hope that the exhibition has been a financial success; it certainly ranks high amongst provincial photographic exhibitions.

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We have much pleasure in giving the awards in the AMATEUR PHOTOGRAPHER Junior Photographic Competition. This competition was liberally responded to, and some forty boys under the age of eighteen competed. In each class a silver and bronze medal was offered for competition, with the following results:—

CLASS I.—LANDSCAPE.

Silver Medal ..	G. C. Veale, Giggleswick.
Bronze ..	R. E. Eddison, Giggleswick.
Certificate ..	C. A. Roberts, Liverpool.

CLASS II.—PORTRAITS, INCLUDING GROUPS.

Silver Medal ..	H. C. Butterworth, Park Hurst.
Bronze Medal ..	A. C. Newett, Rossall.

CLASS III.—ANIMALS.

Silver Medal ..	Thos. Mathison, Edinburgh.
Bronze Medal ..	A. C. Ellis, Highgate.
Certificate ..	W. H. B. Clarke, Harrow.

CLASS IV.—ARCHITECTURE.

Silver Medal ..	H. C. Holden, Giggleswick.
Bronze Medal ..	H. W. Chinnery, Leyton.
Certificate ..	R. L. Evans, Hampstead.

All the prize photographs are very fair standard, and many of the others show exceptionally good work. The whole of the photographs may be had on loan by compliance with our conditions, particulars of which will be sent upon receipt of stamped addressed envelope.

WE would remind our readers that Dr. J. T. Acworth, F.I.C., F.C.S., will give a demonstration on Flash Light Photography at our next "Monday Evening," December the 9th. Doors are open at 7.30 p.m., and the work of the evening will commence punctually at eight.

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THE Capetown Photographic Club is in a very flourishing condition. The Secretary's report shows that good progress has been made. Papers have been read and demonstrations given upon many subjects, and the members are kept well up to time. The financial position is good, and the officers seem to be fully up to their work. Mr. E. J. Steer, the Hon. Secretary, is anxious for us to send out our Prize Slides, and begs us to arrange competitions at such dates as will permit of the members of the Capetown Club competing. These matters are under consideration. The Committee have arranged an efficient dark-room, and the Society has a capital general or club-room. Any photographers from England will be most heartily welcomed.

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A CORRESPONDENT writes:—"In last week's issue you mentioned how the optical lantern is being brought into use for educational purposes. Mr. James Harrison, Professor of Botany to the Goldsmiths' Institute, New Cross, and the Charterhouse, is now illustrating his lectures by means of the oxy-hydrogen lantern, the photo-micro. slides being greatly appreciated by the students. Mr. Harrison is an amateur photographer."

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WE have received a letter from the Hon. Secretary of the Douglas, Isle of Man, Photographic Society, which contains a suggestion which is well worth attention, and is as follows:—"Could not an examination be passed by anyone who wished to do so in working limelight, so that a certificate could be shown that he understood what he was about, as lanterns are now so commonly used that anyone fancies they can work them, and a few accidents would soon shake the public confidence, and do away with the best means of making photography attractive." We think that this is a suggestion which should be acted upon by some influential society, the Lantern Society being the most suitable to take up the position of examiners. We heartily concur with the opinion expressed at the Ilkeston inquest by Mr. Chadwick, backed up as it is by such an authority as Mr. Lewis Wright, that the blow-through jet is the safest and the only one to employ. There is an opinion current that a blow-through does not give such a good light as a mixed jet, but we think from experiments that this is erroneous. We were shown a special form of blow-through jet on Monday, which has some novel features, and which we hope to be able shortly to introduce to our readers.

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WE have already referred to the camera gun, and a correspondent has kindly sent us from Vienna a circular fully describing the same, and also two small prints of results. One print is of a pigeon, and, considering the small size of the picture, $1\frac{1}{2}$ inch diameter, the image of the bird, which measures about one-third of an inch, is wonderfully sharp and clear. The camera is affixed to the underneath part of the barrel or barrels, as it is applicable to single or double barrelled guns, and is provided with a small roll-holder for using celluloid films, there being sufficient of the latter for thirty exposures. The advantages of such an arrangement as this are evident to all sportsmen,

as the resulting negatives will be useful not only for obtaining pictures of birds and animals in their natural states, but also prove, in the case of misses, the cause of the failure, as the central point of the picture is the point towards which the shot is directed, so that a sportsman will be able to determine whether he shot too soon, too late, and whether his aim was correct. Most of us will remember that in the statistics of the late Soudan war the amount of ammunition expended was far in advance of the number of killed, and possibly also the wounded. It might therefore be of interest to fit a few rifles with these small cameras in a sham fight, and then examine the resulting negatives. The camera is patented in all countries, and can be fitted to guns of any kind at a price of 115 florins (about £9 English money).

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It will be of considerable interest to our readers, especially to our lady readers, to know that the editor of the *Lady's Pictorial*, who reproduced on a previous occasion some of the prize pictures in our "Ladies' First Photographic Competition," is about to reproduce, probably in the next issue of his paper, a selection from the pictures sent in by the first and second prize winners—Mrs. Janie N. Hignett and Mrs. S. Francis Clarke—in our "Ladies' Second Photographic Competition. We understand that altogether six photographs will be reproduced, and also that the work of the other competitors will be referred to at considerable length. The facts we have mentioned show that a great interest is taken in our competitions, and also that photography is becoming widely recognised as a lady's pursuit, the following up of which will give ample opportunity for the exercise of that artistic taste with which ladies are so frequently endowed. We may say with reference to this point that the competition, as a whole, does great credit to the competitors, and shows a marked advance on the work sent in for the previous competition. We may remind our readers that the following are the pictures sent in by the two ladies whose names are mentioned above:—Mrs. Janie N. Hignett: "In the Trossachs," "The Pass of Melford," "A Shropshire Lane," "Milking Time," "Swinging on the Gate," "The Serpentine, Eaton Hall," "The Thames," "On the Ouse." Mrs. S. Francis Clarke: "Grannie's First Lesson," "Lilac and Lilies," "Bad News," "Playing the Lady," "Si vous M'aimez," "Ophelia," "Lady Macbeth," "Portia."

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THE members of the Swansea Amateur Photographic Association are enterprising and by no means satisfied to hide their light under a bushel. They desire that their fellow-townsmen should know what they are doing, and have the pleasure of admiring and criticising their work. With this view, they will this evening (Friday) give their third annual lantern exhibition in the Albert Minor Hall when a considerable number of slides from negatives taken on the Society's various excursions will be thrown on the screen. We congratulate the Society on its public spirit, and have no doubt the attendance will show that it is also appreciated locally.

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WE have received from Mr. Thos. Mansell, the Hon. Secretary of the Mutual Photographic Club, a copy of the rules and regulations, from which it appears that the membership is limited to twenty, that three prints have to be contributed by each member, and an album will be circulated each month, accompanied by a note-book for discussions, etc. We have been asked and have consented to act as judge and critic. This idea of circulating albums is one

which may lead to a great deal of pleasant camaraderie and cannot fail to be of benefit to the individual members.

THE ILKESTON EXPLOSION.

As briefly noted in our issue of last week, there has been at Ilkeston, in Derbyshire, one of those mysterious explosions—in this case, with gas bags—which have unfortunately become associated in the public mind with lantern exhibitions given with the oxy-hydrogen light. Unfortunately, in this case, the explosion has been attended by the loss of one life, and serious personal injuries to many others. We print below

the opinion that the explosion was caused by a mixture of the gases in one of the bags, and the same opinion was expressed by Mr. Wolff, B.Sc., who has had considerable experience with the lantern. On the other hand, Mr. Wm. M. Jackson, analyst and chemist, in the employ of the Manchester Oxygen Company, said he was not so positive as the other experts that there was an explosive mixture in one of the bags, but said "it was quite possible that, during or after the Tuesday night's entertainment, there might have been a leakage of oxygen into the hydrogen bag sufficient to cause a small explosion, but enough to rend, the canvas between the two bags, and, of course, the bags

"AMATEUR PHOTOGRAPHER" COMPETITION PICTURES.



GREENWICH HOSPITAL.

By A. R. BERRY.

the opinion of a lantern expert, and from the account in the local papers of the inquest and of the experts examined, we condense the following notes. Mr. Scattergood, the lantern operator, who was himself much shaken and bruised, put forward the theory that there was a leak in the hydrogen bag, and that the escaping gas ignited at the flame of a naked candle. Mr. Scattergood also suggested that as he spilt some tacks on the previous night one of these might have penetrated the bag. Mr. Chadwick, who was examined as an expert, said that the gauze in the jet was absolutely useless for preventing the sucking back of the flame, and quoted Mr. Lewis Wright in support of his statement. Mr. Krowles, a chemist in the employ of the Birmingham Oxygen Company, was of

themselves, as there were two heavy weights on them. There would then be a rapid admixture of the two gases and a violent explosion would ensue on the mixture coming into contact with a light." Whatever the cause, we certainly agree with the finding of the jury in exonerating Mr. Scattergood, who has had twenty years' experience as an operator, from all blame. A fund has been opened for the relief of the sufferers, and we shall be pleased to forward any sums which our readers send us.

As this sad occurrence will undoubtedly have some effect on the popularity of the lantern, it is desirable that the exact cause of the explosion should be ascertained.

The facts appear at present to be these: Councillor Scattergood, the exhibitor, who has had twenty years' experience, placed

the biunial lantern in the centre of the hall, with the two bags in one pair of boards immediately in front of it. The hydrogen was at the bottom and the oxygen on the top. Two 56 lb. weights were placed on the bags, and the exhibitor proceeded to light up. This done, the lantern door was closed. There was a slight crack at the jet, and a woman sitting near screamed. The exhibitor opened the door of the lantern, and noticed that the flame in both lanterns was out. The explosion happened immediately. The two weights were thrown some distance, and smashed through the floor in their descent. The piece of canvas that was between the two bags was afterwards found suspended from a window high up in the building. This is important to notice.

The pressure boards were splintered up and scattered in all directions. The chairs caught light, and one or two places in the floor began to blaze. As a matter of course, all the lights in the hall were extinguished. The boy Brewer, who was killed, sat in front of the lantern and near the gas bag.

Mr. Scattergood is of opinion that there was a rent in the hydrogen bag, but as he also states that the bag was new, of the best quality, had only been used a few times, and the weight of 112 lb. would not injure a new gas bag, this theory must be discarded, except on the supposition that some persons deliberately injured the bag, but even then the hissing sound of the gas escaping would be heard when the weights were applied, and no one near appears to have smelt the gas.

It is important to notice that the explosion happened in the bottom bag, which contained hydrogen, else how could the canvas partition have been raised to the height where it was found?

The bags had been used the night before, and perhaps the bag containing oxygen then had not been quite emptied, and was used for hydrogen the night of the explosion; but, in this case, why did the light go out at the jet immediately before the accident? In the case of explosive gases, ignition acts on the whole in an instant, as with gunpowder; whereas a bystander states a period of at least two seconds elapsed between the crack at the jet and the explosion. The operator himself says he opened the door on hearing the crack, and saw the lights were out.

There is one other way of accounting for the disaster, which is that the weight was temporarily removed from the bags.

When the bags are quite full in one pair of pressure boards, they distend the boards beyond an angle of 90° and the thin end must be raised about 2 ft. from the floor, or the weights will not act.

Now this raising has the effect of shifting the centre of gravity much farther back towards the thick end, consequently a small amount of pressure exerted in a particular direction will cause the whole apparatus to topple over.

There is no evidence to show that the smaller end was fastened to the floor, as it ought to have been, and the lantern and gas bags being surrounded by boys it is quite possible that someone touched the bags and frames, causing the centre of gravity to be so far removed from its proper position that the pressure would be removed and gas would be drawn from one bag into the other and carry the flame with it in the same manner as an ordinary pair of bellows would if the valve underneath did not exist.

The explosion would not happen until the mixed gases and flame were in the bag; their progress would take about two seconds, and this was agreed by all who were there to be the period of time which elapsed between the crack and the final explosion.

The weights must have been on the bags at the time of the explosion, or they would not have been thrown up to such a height as to smash the floor in their descent.

From actual trial it has been proved that a child can push the whole apparatus over unless it is properly fastened down to the floor. The experiment was made with a weight of 112 lb.



Camera Club.—On Thursday evening, December 10th, Mr. T. R. Dallmeyer will give a short description and demonstration of "New Telescopic Lens for Photography." This will take place at eight o'clock, before Dr. Fison's lecture, which commences at the usual time, 8.30 p.m.

Fallowfield's "Photographic Remembrancer."—This circular, which is sixteen pages, contains much useful and, instructive matter. We commend the perusal of it to our readers, as many novelties are mentioned which will possibly be of great use. Mr. Fallowfield has adopted as a sub-title "Photographic Tit-Bits;" many of these "Tit-Bits" are original and amusing.

Letters to the Editor.

THE P.S.G.B. MEDAL.

SIR,—There is a little mistake that sometimes crops up, intentionally or otherwise, about the medal of the above Society, that should be corrected. We often hear, sometimes, curiously enough, in advertisements, that Mr. So-and-so had received the *Gold Medal*, and in your last Mr. C. W. Whistler assures you that a friend of his was a *gold* medallist of the Photographic Society of Great Britain. This is an amiable mistake in a friend, but all geese are not swans. There has never been a *gold* medal awarded by this Society. For two, or perhaps, three years, in the early days, the medal was of silver, and the progress medal, of which one only may be given every year, is, I believe, of silver, but otherwise it is invariably of bronze.

Allow me to express my regret, now I am writing, that this Society is so ill, perhaps dying, of what appears to be stupidity. "Whom the gods would destroy they first make mad."—Yours, etc.,
A FORMER MEMBER.

* * * *

LENSES.

SIR,—I am obliged to Mr. Hethton Lewis for pointing out the slip in method 5 of estimating focal length of lenses. What I intended to convey was that having multiplied the distance between object and image by the figure which represents the proportion of the image to the original object, the result should be divided by the square of the number higher by one than the multiplier. Putting it into a formula, we have:—

Let D = the distance between image and object.

" P = the proportion of image to object.

" F = focal length.

Then $F = (D \times P) \div (P + 1)^2$.

—Yours truly,

E. J. WALL.

SIR,—Will you kindly allow me to offer an explanation with regard to "Method No. 5," for estimating the equivalent focal length of lenses. I discovered after sending off my last letter that I had based my calculation on a misinterpretation of the wording of the instructions, in which we are directed to "divide by the square of the proportional number plus one." The proportional number given being 6, and the square of it 36, and plus 1 making the 37 I mentioned. No doubt Mr. Wall will kindly excuse this easily made mistake, as I for the moment, failed to recollect that the rule is to add the 1 to the proportional number *before* squaring it. This explanation will, I trust, make all square now. Perhaps after all it may save some others putting the construction on the sentence that I, unfortunately, for the moment, did.

I venture to think, it would be clearer to put the matter as follows: Carry out the directions given in Method 5, page 376, down to the multiplying point, then add 1 to the proportional number, square the result, and divide as directed.

I might mention that an interesting means of checking the results of these calculations is afforded by a reference to Gotz's useful tables of conjugate foci, where focal lengths of lenses are given of from 3 to 36 inches; but of course if the focal lengths mentioned in the tables did not happen to include the focal length of the lens under examination, in such case only an approximate check could be expected. The tables are most useful for their specially intended purpose, however, and no one would regret the purchase of a copy.—Yours, etc.,

C. HETHTON LEWIS.

St. Leonard's-on-Sea, Nov. 28th, 1891.

* * * *

A PLEA FOR COMPOSITION IN PHOTOGRAPHY.

SIR,—"A Landscape Amateur" asks for my authority. I will give it to him. If he will look in the official catalogue of the Royal Academy, under the heading of "Notice to Exhibitors" he will read these words: "Works inadmissible....no mere transcripts of the objects of natural history."

Again, unless I am wrongly informed, the Royal Academy does not teach landscape painting in their schools at all. They teach figure drawing, composition, modelling, sculpture, and architecture, but not "landscape pure and simple" and I naturally infer

from this that they do not consider it to be a branch of fine art at all.

Beyond this if "A Landscape Photographer" will examine the pictures in the National Gallery he will not find there one landscape without one or more figures in it. The same may be said of that fine-art work, Burnet's "Hints on Composition," now being published in the AMATEUR PHOTOGRAPHER. I have looked through my Burnet, and find figures introduced into each illustration given.

As I said in my letter, there can be no fine art without sentiment. Man's mind being the most perfect thing in nature, in looking round man sees everything to be less perfect; and so he endeavours to supply the deficiency by combining a beautiful sentiment along with such portions of natural scenery as carry out his ideas, and the photographic world is beginning to perceive that it is not the easy and merely pretty which should form the goal of its earnest endeavours, but that there is something far nobler and more worth striving after; something in which the work of art shall blazon forth the soul of the artist. —Yours, etc.,

FRED DAVIS.

Photographic Procedure.

By E. J. WALL,

Author of the "Dictionary of Photography."

SECTION II.—THE LENS.

IN order to give some practical assistance, the following classified list of the leading lenses has been compiled, which needs no further explanation beyond that given by the headings of columns:—

I.—Portrait Lenses.

NAME OF MAKER.	NAME OF LENS.	LARGEST APERTURE	REMARKS.
Beck, R. and J. ...	Extras Rapid Rectilinear "Autograph" ...	$f/4$	Both combinations cemented
Burr, Chas. ...	Portrait ...	$f/4$	
Dallmeyer, J. H. ...	Extra-quick Acting or C Lens ...	$f/2.5$	Specially constructed to give a flat field with good marginal definition.
" ...	Quick Acting or B ...	$f/3$	
" ...	Ordinary Intensity A ...	$f/4$	
" ...	Rectilinear Portrait ...	$f/5$	
" ...	Portrait and Group D ...	$f/6$	
Ross and Co. ...	Improved Portrait ...	$f/3-f/4$	
" ...	Rapid Cabinet ...	$f/3-f/4$	
" ...	Rapid C.D.V. ...	$f/3-f/4$	
Swift, J., and Son...	Portrait Paragon ...	$f/4$	
" ...	Rapid C.D.V. ...	$f/4$	
" ...	Extra-rapid C.D.V. ...	$f/2.828$	Both combinations cemented
" ...	Quick Acting Cabinet ...	$f/4$	
" ...	Portrait Petzval ...	$f/4$	

II.—Euryscope Lenses (or lenses intermediate in aperture between the portrait lens and ordinary doublet).

NAME OF MAKER.	NAME OF LENS.	LARGEST APERTURE	REMARKS.
Fritsch ...	Portrait Aplanat A ...	$f/4.5$	Made of Jena glass
" ...	Aplanat D ...	$f/5.5$	
" ...	Group Aplanat ...	$f/5.5$	" "
Goerz ...	Rapid Universal Aplanat C ...	$f/5.5$	
" ...	Recti-aplanat D ...	$f/6.5$	" "
Hartnack ...	Portrait Aplanat A ...	$f/5.5$	
Perken, Son, and Rayment	Optimus Euryscope ...	$f/6$	" "
Ross and Co. ...	Universal Symmetrical, New Series ...	$f/5.6$	
Steinheil ...	Portrait Aplanat ...	$f/4.5$	" "
" ...	Group Aplanat ...	$f/5.6$	
Suter ...	Rapid Aplanat ...	$f/5$	" "
" ...	Aplanat A ...	$f/6$	
Swift ...	Universal Paragon ...	$f/5.6$	" "
Taylor, Taylor, and Hobson	Rectilinear Portrait E.R.R. ...	$f/6$	
Voigtlander ...	Portrait Euryscope ...	$f/4.5$	" "
" ...	Euryscope ...	$f/5.6$	
" ...	Rapid W.A. Euryscope ...	$f/6$	In the "small" sizes of this lens
Wray ...	Rapid Rectilinear ...	$f/5.6$	
Zeiss ...	Apochromatic Triplet ...	$f/6.3$	Made of Jena glass

III.—Rapid Rectilinear.

NAME OF MAKER.	NAME OF LENS.	LARGEST APERTURE	REMARKS.
Beck, R. and J. ...	Autograph R.R. ...	$f/8$	Made of Jena glass
Burr, Chas. ...	Rapid Doublet ...	$f/8$	
Dallmeyer, J. H. ...	Patent Rapid Rectilinear ...	$f/8$	
Fritsch ...	Aplanat C ...	$f/8$	
Goerz ...	Amateur Aplanat D.D. ...	$f/7$	
Hartnack ...	Aplanat B ...	$f/9$	" "
Perken, Son, and Rayment	Optimus R.R. ...	$f/8$	
Ross and Co. ...	Rapid Symmetrical ...	$f/8$	" "
Steinheil ...	Aplanat ...	$f/7$	
" ...	Landscape Aplanat ...	$f/12$	" "
Suter ...	Aplanat B ...	$f/8$	
Swift ...	Rapid Paragon ...	$f/8$	" "
Taylor, Taylor, and Hobson	Rapid Rectilinear ...	$f/8$	
Voigtlander ...	Euryscope ...	$f/7.75$	" "
Wray ...	R.R. ...	$f/8$	
Zeiss ...	Anastigmat ...	$f/7.2$	" "

IV.—Rectilinear Wide-Angle.

NAME OF MAKER.	NAME OF LENS.	LARGEST APERTURE	REMARKS.
Beck, R. and J. ...	Autograph, W.A. Rect. ...	$f/16$	Made of Jena glass
Burr, Chas. ...	Wide Angle Doublet ...	$f/16$	
Dallmeyer, J. H. ...	W. A. Rectilinear Patent ...	$f/16$	
Fritsch ...	Apochromat, W.A.E. ...	$f/10$	
Goerz ...	W.A. Aplanat F ...	$f/15$	
Hartnack ...	Pantoscope ...	$f/13$	" "
" ...	W.A. Aplanat ...	$f/11-f/31$	
Perken, Son, and Rayment	W.A. Euryscope ...	$f/9.5$	" "
" ...	Portable Symmetrical ...	$f/16$	
Steinheil ...	W.A. Aplanat, Series V. ...	$f/20$	" "
Suter ...	" ... C ...	$f/15$	
Swift ...	W.A. Paragon ...	$f/11-f/16$	" "
" ...	Port Paragon ...	$f/11$	
Taylor ...	W.A.R. ...	$f/11.3$	" "
" ...	W.A.R. ...	$f/16$	
Voigtlander ...	W.A. Euryscope, VII. Series...	$f/11$	" "
Wray ...	W.A.R. ...	$f/16$	
Zeiss ...	Anastigmat, IV. Series ...	$f/12.5$	" "
" ...	" W.A. V. Series ...	$f/13-f/17$	

V.—Landscape or Single Lenses.

NAME OF MAKER.	NAME OF LENS.	LARGEST APERTURE	REMARKS.
Dallmeyer, J. H. ...	New Rectilinear Landscape ...	$f/11$	Made of Jena glass
" ...	Wide-Angle Landscape ...	$f/13-f/15$	
" ...	New Rapid Landscape ...	$f/12$	
Goerz ...	Triple Achromatic Lens ...	$f/15$	
" ...	Triple Amateur ...	$f/15$	
Hartnack ...	Choroscope ...	$f/13.7$	" "
" ...	Landscape Anastigmat ...	$f/13$	
Perken, Son, and Rayment	Landscape ...	$f/11.31$	Triple achromatic
Ross and Co. ...	New Single Wide Angle...	$f/16$	
Swift, J., and Son...	Long Focus Landscape ...	$f/11.31$	
" ...	Portable Landscape ...	$f/11.31$	
" ...	W.A. Landscape ...	$f/8$	
Taylor, Taylor, and Hobson	Rapid View, R.V. ...	$f/8$	Made of Jena glass
" ...	Wide-Angle View, W.A.V. ...	$f/11.31$	
Voigtlander ...	Single Landscape ...	$f/15$	
Wray ...	Landscape ...	$f/8-f/11.3$	
" ...	W.A. Landscape ...	$f/11.3$	

VI.—Hand-Camera Lenses.

NAME OF MAKER.	NAME OF LENS.	LARGEST APERTURE	REMARKS.
Ross and Co. ...	Special Hand-camera ...	$f/5.657$	" "
Taylor, Taylor, and Hobson	Detective ...	$f/5.657$	
Wray ...	Special Hand-camera ...	$f/8$	

The following works, treating of photographic lenses and optics generally, should be consulted for further information:—

Burton's "Photographic Optics" (Piper and Carter, 1s.)
 Dallmeyer's "Choice and Use of Lenses" (J. R. Dallmeyer, 1s.).
 Eder's "Ausführliches Handbuch der Photographie:" 2nd edit., 1 Band, 4 Hft., "Die Photographischen Objective" (Wihelm Knapp, 6s.)
 Lainer's "Vortrage uber Photographische Optik" (Spielhagen, 6s.)

Schroeder's "Die Elemente der Photographischen Optik" (Robt. Oppenheim, 6s.)
 Moessard's "Etude des Lentilles et Objectifs Photographiques" (Gauthiers Villars, 1s. 6d.)
 Soret's "Optique Photographique" (Gauthiers Villars)
 C. J. Leaper's articles in the AMATEUR PHOTOGRAPHER, 1890-91.



Study and Practice of Art in Field Photography.

BY A. HORSLEY HINTON.

II.—SOME FURTHER PRELIMINARY REMARKS.

SOME further preliminary considerations must be duly regarded before proceeding to our subject, for in the first place we have started with the assumption that the really artistic is attainable, to some considerable extent at least, by means of photographic methods.

We would, however, point out that this must be accepted with due caution.

Photography has been tried, has been employed, by those who possess requisite art knowledge and training to too limited an extent, and its purely artistic claims have been brought to the bar for judgment for too short a time to justify as yet a final decision, and whilst we venture to think there is a strong case for the plaintiff, yet, perhaps, the safest position to take up at present is that photography, although as yet in comparative infancy, has occasionally, in proper hands, shown such results as should justify the full hope that, with greater knowledge of its possibilities and the wider cultivation of the artistic sense amongst those who use it, in due time it may be impossible to deny to photography a position at least co-equal with the older and generally recognised pictorial arts. In view of some of the most modern phases of photography, and not a few recent productions, and remembering how rarely those who have mastered the scientific formulae have sufficient art knowledge to rightly guide them in their work, or even to discriminate between the good and bad when their finished results lay before them—in other words, how very rarely are the scientific and artistic, both highly developed, to be found associated in the same individual—certainly the greater future in which some have indulged a hope is a thing not to be despaired of, even though we hesitate to fully accept it as already proved.

A certain truthfulness in the portrayal of selected forms and objects, and the ease and rapidity with which it records passing effects of nature, together with the power which it has placed in the hands of those who may have knowledge and appreciation of the beautiful in art and in nature, but who lack the power to skilfully wield brush or pencil, have given photography a unique position and dangerous popularity. Yet those who have practised it conscientiously, seriously, and whose sole aim is the finished picture, find ere long that their endeavours to reproduce some of the most fascinating impressions of nature are disastrously unsatisfactory, and realise the existence of those limitations which are held by some to for ever deny the art claims of photography, and, moreover, the more intimate the student's acquaintance of nature the more apparent will these shortcomings become.

That photography does possess certain artistic limitations must be admitted, and had best be recognised at the outset, but we must be careful not to attribute to our art those faults which may be owing to our own imperfect technique, after which we may endeavour to rightly estimate the real importance of the so-called limitations.

Ignorance and prejudice have no doubt often exaggerated these limitations, whilst insufficient acquaintance of nature has prevented many from duly appreciating their magnitude.

The inability of photography to alter the view or subject, to introduce any object into the picture or to eliminate an undesirable feature from it, and also the limited power of the photographer to emphasise or suppress any particular part of the picture, are conditions to be admitted up to a certain extent, for whilst we may be unable to remove an objectionable object from the scene, we may by a little thought and observation choose a time of day when the change in the direction of the light will make a particular object less obtrusive, or even convert it into a desirable feature. Nevertheless, though patience and observation may enable us to evade the difficulties presented by the limitations above cited, they must as a general principle be admitted.

How far photography fails to truly represent linear perspective and "tone" is still an open and debated question, and for our part we are disposed to think that admitting that the photographic print is often in error in these particular directions, yet the fault rests more often with the photographer than with the means at his disposal, and even when in error there is so much of truthfulness that the compromise is not an unhappy one. Finally, as regards the incapacity of photography to represent a full scale of light gradation, we do not see that photography is weaker in this respect than other monochrome methods, provided only that the photographer is able to use his materials to proper advantage. Hence the chief and perhaps only real limitation which we are disposed for the present to admit, is our comparative inability to modify or alter the subject before us, and whilst we are oftentimes disposed to deplore our helplessness in this respect, we are ready to regard it as a not unmixed evil. In the first place could we use the lens in the same unfettered manner as the pencil, we might introduce or omit too much, but the lens as it compels to so much truth, that we are almost reconciled to the inclusion in our picture of that we would fain leave out, and then again, lacking the painter's opportunity of *composing*, our powers of *selection* are sharpened, and what pleasure there is in the exercising of these powers none know but those who, having something of art, love nature and find enjoyment in the contemplation of it.

It is then this ability to select that must occupy our chief attention. It is the old question, "What to photograph?" that we shall endeavour to assist in answering; and not only what, but how, and under what conditions?

Certain rules and principles of composition have been laid down, and, it may be, have been insisted upon with too much vehemence; but whether the knowledge of and compliance with these rules be essential or not to the production of the picture, it seems pretty certain that an acquaintance with them and the ability to apply such rules might at least have prevented the perpetration of glaring errors often seen in photographic representations, and have resulted in a pleasing picture in the place of an unsatisfactory or commonplace print. The combined efforts of a skilful teacher and a zealous pupil will not necessarily result in an accomplished artist. An artist is not made by constant study only, as is, perhaps, the scholar, any more than the finished musician can be made by mere training and practice. There must be an instinctive aptitude to see, to appreciate, and to reproduce the beautiful, to which may be advisedly added a knowledge of the rules by which others have worked, or with which so much good art appears to intentionally or unintentionally comply.

The eye, the mind, instinctively appreciative of the beautiful, that is the naturally artistic, can, perhaps, dispense

with rules and formulæ, and can afford to despise their assistance; but all are not equally gifted, and hence it is that we recommend the study of nature from an educated standpoint, so that perchance we may make up somewhat for our lack of artistic perception.

The artist, on seeing a given arrangement in nature, does not, perhaps, require to pause and consider whether the component parts of the scene fulfil the requirements of certain rules of balance and harmony. It is possibly a reverse process which all but unconsciously takes place; it is because the arrangement is a pleasant one and the composition good that his eye recognises it and it attracts his attention. Even this may be largely acquired by study and practice, and the knowledge of what pleasing composition does require will at least serve us in good stead as a reference and a guidance when we hesitate to trust to mere impression and impulse.

We are, of course, aware that in the exercise of selection, individual taste and feeling will guide our operations, and whilst also granting the importance of the artist, photographer or painter, being enamoured of his subject, at the same time we would insist upon the danger of our particular affection getting the upper hand of discretion and judgment.

Desirable as is freedom of taste, of action, of feeling—in other words, originality—yet certain forms and combinations are universally admitted to be good, are recognised by all to be productive of “æsthetic pleasure.” Such things are more than a mere matter of individual taste, and are, perhaps, impossible of explanation, for, to quote from “*Frondes Agrestes*”—“Why we receive pleasure from some forms and colours and not from others, is no more to be asked or answered than why we like sugar and dislike wormwood.”

It is not our intention to present our readers with any digest of Harding, Burnet, or other writer on the subject of composition, nor yet to offer him a course of lessons and exercises of our own. The Rev. F. C. Lambert, M.A., has in some recent issues of the *AMATEUR PHOTOGRAPHER* treated the subject in an able and exhaustive manner, and whether we consider such laws arbitrary or not we strongly recommend the student to make himself thoroughly acquainted with these written mathematical laws, keeping his mind the while free from prejudice, ready to utilise such knowledge as he may have acquired, but without giving slavish obedience.

We surmise that not a few students who are deeply read in such matters as the arrangement and balance of lines find, when at work with the camera in the fields, infinite difficulty in applying these rules, or in seeing any instance where such rules appear to fit in; indeed, we know of energetic photographic workers to whom one may speak of composition, contrast, balance, etc., who, having read a little, are able to follow and assent to it all, and yet in their photographic work we see again and again instances of a pleasant arrangement in nature being utterly spoilt solely for the want of applying some one of those principles in which they appear so well versed. Whether such fault arise from not understanding the rules laid down or from the insufficient education of the eye, we may be unable to determine, but it has brought us to feel that with the photographic student who has but a very slight knowledge of art matters the mere study of the laws of composition, perspective, tone, and so forth is largely useless unless supplemented by actual examples and diligent practice.

Photography, as an art, is of necessity essentially *naturalistic*. We use this word, be it remembered, in its simple etymological sense, and in no way connected with any particular school or following in which association it has

become almost a cant term. Photography cannot but be naturalistic, inasmuch as its productions are direct reflections from nature, but as nature is not always suitable for the purpose of picture-making, it behoves us to be able to carefully discriminate between the good and bad, that is, to select a pleasant composition or to readily discern a harmonious combination whenever it presents itself; for this purpose the eye must be carefully and intelligently trained to observe nature as a whole, and to consider it apart from any details or particulars.

This is no new teaching, but it is a matter which cannot be too strongly emphasised, and it is to this task that we would now commend our readers.

(To be continued.)



The Artistic Use of a Hand-Camera.

By JOHN ANDREWS.

MANY people seem to think that one camera can be made to serve all purposes. This is a mistake; a hand-camera should be used strictly as a hand-camera if the best results are to be obtained. Now, the very essence of a hand-camera is that it should be always ready, at “full cock,” so to speak; it should be light, portable, and compact, simple and certain in the changing of plates; the shutter should be easily varied and not too rapid, the stops easily changed, and the finders over the lens and identical. We assume, of course, that the lens is a rapid R.R., of about $5\frac{1}{2}$ inches focus.

There are many cameras on the market which embrace all these requirements, but most of them are expensive, running up to £8 and £10. Still, a good instrument is well worth the money, and will save much worry and disappointment.

Now, we dismiss at once all hand-cameras which change the plates by means of dark slides or bags. This cuts out a good number. The changing arrangement should be by a simple screw or turn of a lever, and there must be no turning upside down or thumping before the machine will work. The plates will be held in sheaths, and Miall's patent sheaths are admirable, though it is very much to be desired that, by means of a dyed film, sheaths could be altogether dispensed with. Plate makers also should be more careful as to the uniformity of the size and thickness of their plates, as nothing is more aggravating than to be stopped by a jam in the camera, and perhaps a whole afternoon wasted in consequence. Assuming then that we have a camera possessing the above requirements, let us consider how and for what purpose we should use it. First of all we must steadily set our faces against promiscuous pot shots at anything or everything. These things will only amuse children and idiots, whose ambition appears to be satisfied when they have secured a negative of a railway express.

No, the uses of a hand-camera to an artistic worker are very different. He will be chary of letting off his shutter till he gets the exact thing he wants—no easy matter. For his real aim is to secure an artistic impression of nature which may help him in his work, and which is often as fleeting as the ocean foam. For instance, in a portrait or head, how difficult it is to catch the desired expression, which, perhaps, may only occur at very long intervals, and must be secured when it does occur, on the instant. And the same with attitude and gesture—how often a picture may be made or marred by the turn of a head or an arm. For these things we must watch and wait with our finger

on the trigger. What beauty, too, and grace there often are in the unconscious attitudes of children at their play, or of men at their work, or of old age in its repose! These things must be secured instantaneously if at all, and the same remark applies to the photographing of birds and animals, which are often extremely graceful and humorous. But these graceful, unconscious attitudes and expressions must, as the advertisements say, "be seen to be appreciated," and most people go through the world practically blind to the beauty that is everywhere around them. An artist is ever on the watch for these things, most of them as fleeting as the "snowflake on the river," and as from experience he knows what will make a picture, so from the study of the best examples of ancient art, such as the frieze of the Parthenon and the works of the old masters, he is able to seize on a graceful attitude or expression at once. His mind, as Wordsworth beautifully puts it, has become "the mansion of all lovely form." And surely the hand-camera must be of immense service to such a student. It is much to be desired that plates could be made even more sensitive than they are, so that instantaneous photography could be secured indoors and in a feeble light.

But it is, however, for the study of landscape effect that the hand-camera is most valuable. Now, here there is a wide field for the artistic worker.

Every artist worthy of the name knows that effects of light and shade are the very life of nature, and their reproduction is at once his aim and despair, and he will spare no effort, by rapid sketching and pencil notes, to secure even some faint image of their beauty. At the best he has to rely largely on his memory, so rapid are the changes of nature, and here a hand-camera is of immense service, as the most beautiful clouds and passing gleams can be secured. For cloud photography alone, a hand-camera is invaluable, as no human work can at all approach the truth of form and mysterious subtlety of a good sky, and a good collection of clouds, from the higher cirrus to the low stratified nimbus, is of immense interest and value to an artist. Cloud photography, too, has this advantage, that it can be carried on in the winter, and at all times, except in dull and muggy weather. Some of the best effects are to be obtained after a gale or thunderstorm, when the weather is clearing up, and in the evening, looking to the west, when the sun is just behind the clouds; with a low horizon on the sea, splendid effects can be secured. Besides this, in ordinary landscape views, the quick exposures of a hand-camera will always secure the sky, and, if it happens to be a good one, may be the making of a picture out of a very ordinary scene. This is far better than the usual method of printing-in skies; even when well done, the process is troublesome, and the results seldom successful, and often ridiculous.

In the fifth volume of Ruskin's "Modern Painters" will be found an exhaustive and masterly study of the sky, and some of the descriptions are as gorgeous and full of the splendours of sunset as a Turner picture.

In photographing skies or landscapes with a hand-camera the most important matter is the light, and it is of no use to attempt it on dull days, or under trees, or in shady places; and in the latter months of the year advantage should be taken of the morning light, as the actinic power falls off rapidly after midday.

Another fascinating branch of work is the sea and waves in motion; the truth of the representation of the falling wave and the lace-like wash of the foam is something wonderful and will well repay some trouble. There are few, very few painters who have succeeded in reproducing these effects, even passably. It is no easy matter to hold a hand-camera steady in a gale of wind, and as you must get as close as possible to the

waves, you must not mind wet feet, but *finis coronat opus*, and some of the enlarged sea studies are the finest things that the camera has produced.

Again, for studies of detail, how invaluable is a hand-camera! By its aid the artist can secure the shape of weeds and docks, the growth and branching of trees, the structure of rocks, and numerous other things, which will materially assist him, if not by their exact representation in his picture, at all events they add materially to his mental stock of natural form from which he draws his supply, and which he idealizes when reproduced in his finished work.

Another use to which a hand-camera may be put is in securing figures and groups of cattle and birds to be introduced into pictures; these are very valuable, and many a good idea may be got by a little observation while at work, and may be the making of a picture. For boats and ships in motion, of course, a hand-camera is indispensable. But we think the best purpose to which it can be applied is in securing as far as possible something of those passing effects of light which are so supremely beautiful, and which give such an expression to the face of Nature, and this beauty will be found not only in the grandeur of storm but in the quiet, unobtrusive passages of calm evenings, when earth and sky are wrapped in the repose of twilight. Such are some of the uses to which a hand-camera may be applied. In the hands of thoughtless, uneducated persons it no doubt deserves all the opposition that has been heaped upon it, but in the hands of intelligent artistic workers it is a most interesting and valuable aid in the study of nature, and the appreciation of her endless charm.



"Thursday Evenings" at the Camera Club.

(BY ONE OF OUR STAFF.)

POPE says, "All nature is but art unknown to thee." Very likely he is right, but whether he be so or not, it is certain that all branches of art have in their nature something in common, something which gives them a closer relationship than is commonly ascribed to them. A natural deduction from this fact will be that those who intend to mostly practice one branch of art would do well to devote some little time to making themselves acquainted with the other branches. Finer artistic perceptions, greater power of expression, and more appreciative treatment would result from such a course, and we feel sure that those members of the club who heard the Rev. F. C. Lambert's lecture on Thursday, who have not already paid some little attention to the sister arts, will begin at once to do so. It is expected as a matter of course that any paper read before the Club will deal with photography, but it must have been an agreeable surprise to the members to find that the paper on "Some of the Analogous Aspects of Poetry, Music, and Painting" (with musical and pictorial illustrations) was not to deal with their "native art." The lecturer, after dealing with the psychological functions of the eye and ear, said that the main function of pictorial art was to record impressions, then ideas which had been derived from those impressions, to revive previous impressions, hence to be suggestive, and then to reach the highest form, to be creative through suggestion. Sounds, on the other hand, opened a new development of the mind. Sounds were mainly connected with natural objects external from the body. Speaking was intellectual talking, but when the emotional side was stronger than the intellectual we passed to singing, which was emotional talking. The drama was intensified talking with a revival of the pictorial side, and in the opera emotional talking with a revival of the pictorial side, and they appealed to the ear and eye both. At this point the lecturer left particulars and came to generalities, saying that authorities appeared to agree that the origin of art was in nearly all cases play; in other words, art was orderly play. Again, many words were clearly endeavours to represent some feature of the object by sound, such as crash, splash. Later on

came the idea of metrical form throughout language generally, and on that device poets frequently relied for assisting the formation of a mind image. Many instances were to be found in the poets; one which everybody knew was Tennyson's "Brook." He was not generally an admirer of Tennyson, but he must confess that that poem had the essence of picturesqueness; it revived in the mind the image of a rippling brook as no painting could do. To emphasise this point a very fine photograph of a brook was thrown on the screen by means of the lantern, and there seemed to be a feeling that the picture wanted the great essentials of sound and movement, whilst the words supplied that want and so created the picture. Another good example of the creation of the idea of movement by words was the poem "How the water comes down at Lodore." In that case also the words, to the mind of the lecturer, represented better the element of the movement of water than the view of a waterfall thrown on the screen. There was another piece which was a remarkable bit of picture language, which, however, was not so well known as it deserved to be; it was the song of the kettle in Dickens's "Cricket on the Hearth." No painter could paint a kettle singing such a beautiful and melodious a song as that kettle had sung. In pictorial art there were two sides, one the representation of an abstract characteristic, and the other the representation, by force of association, of some natural feature of the time. If the growth of the characteristic element were followed and traced, it would be found that it quickly passed into caricature, and it was the fine line which separated the characteristic from caricature which often betokened the highest rank of art. There was in all ideas a tendency to abbreviate mental functions and to use mental shorthand. Here Mr. Lambert made use of the blackboard, making sketches to illustrate the various points he mentioned, many of which drew forth roars of laughter. He said if a painter wanted to give the idea of a pendulum moving, he would paint it at one end of its stroke, the mind of the observer being called upon to supply the intermediate positions. The observer was creating something out of what he saw, and so he was an artist also. That was the highest development of art. Caldecott had a wonderful power of abstraction of character in his drawings, so much so, in fact, that his children's books failed to appeal to little children, but appealed very strongly to children of fifty or sixty years of age. Caldecott could tell in about half a stroke what other men could not tell in a whole page. Nowadays we did not draw a certain old gentleman, we merely drew an axe or a collar; in another case we drew merely a fine moustache. But these cases were tending to the ludicrous. To a certain extent this shorthand was legitimate in art, as in the case of a dog's tail being represented by a series of dots to show that it was wagging. But there was a tendency to the extreme development of this abstraction. The power of the association of sound was much stronger than we were accustomed to think: it began in our earliest infancy. If anyone rubbed the edge of a tumbler we at once knew by the sound that glass had been touched; if paper were rustled, water splashed, or a door shut, we at once could picture the article in the mind's eye. At this stage a new method of illustration was brought into play. The lecturer had brought with him Mr. Joll, organist of St. George's, Campden Hill, and musical instructor at Cooper's Hill, and this gentleman at specified points illustrated the lecturer's remarks by the performance of short pieces on the piano, adding much to the interest of the paper, and enabling even a finer grasp of its ideas to be taken. As an illustration of the power of association of sound, Mr. Joll played Mendelssohn's "Spring Song" (*Lieder ohne Worte*, No. 34), which the lecturer said always vividly called up in his mind the image of a harp, far better than any picture of a harp would do. This power of association ran through our life in similes; soft as silk, black as coal, bald as a new-laid egg, and so on. He might be told that that was a very degraded way of looking at music, but for him music was a good deal more than merely an arousing of certain emotional qualities. There was a growing body who would say that the function of art was to be beautiful and beautiful only. That was a partial truth only; its function was to be beautiful, but not of necessity should it be restricted to that. In the opinion of the best authorities, music would always contain something more than a mere appeal to the emotions; the best part of it would be that it was not only beautiful, but was significant in a sense altogether beyond the language of pictorial art. They all agreed that art was a very wide term, and the most liberal statement was that it was the artistic treatment of a prepared subject; the subject should not be everything, but if there were no subject the

work would have no significance, and would not rank with the highest art; it would be art which merely appealed to certain nerves and did not penetrate the intellect. Referring still further to this point, the lecturer called on Mr. Joll, who, to illustrate various points in the statement, sang Molloy's "Postilion," and played very effectively Mendelssohn's "*Lieder ohne Worte*," No. 30 and No. 34: "The Wave" and "The Wind," Heller; Schumann's "Bittendes Kind," and "Gluckes Genug" (*Schummerleiland Swing Song*); the "Moonlight Sonata," and "The Invitation to the Valse," which last was one of the finest pieces of illustrative music with which he was acquainted. The conclusion of the lecture was the signal for a hearty burst of applause.

The Chairman (Mr. Maskell) remarked that the lecture had been a most interesting one, but had hardly carried out the ideas he had formed on reading the title. He had himself been struck by the relation between the arts; they all appeared to be very intimately connected. Recently he had read a preface by Guy de Maupassant, to a French novel, which was a kind of study of literature, and what struck him about it was that every expression applied to literature would equally well apply to the art of painting. To appreciate the higher forms of art, education was necessary, and, as a rule, those pictures or poems which appealed at once to the untrained imagination were ephemeral and rarely lasting. But when they came to works, especially in music, which required considerable training to understand, the more they saw and listened to them the more they found in them, and they never palled on the imagination. He was particularly struck with that fact in regard to Wagner's works; when he first heard Wagner's music he could not understand it, but as he heard it again and again it grew on him. The same remarks applied to such works as those of Whistler. From the title of the paper he imagined that Mr. Lambert would have dealt with the analogies which had relation to the terms harmony, tone, etc. In regard to that, an incident occurred to his mind. At the Inventions Exhibition there was a fine collection of musical instruments, among them being a very curious piano. This piano had many more keys than an ordinary piano, and the keys were of all colours and shades of colour, and if the keys touched harmonised, the sounds given by the piano harmonised also. The Chairman was followed by Mr. Elder, who said he ought not to have any thoughts at all about some of the ideas put before them by Mr. Lambert, as he only considered himself a scientific photographer, but he was glad that the lecturer had laid stress on the pictorial part of music. In Gurney's *Tertium Quid* essays there were two or three on Wagner's music, in which several points of analogy between music and pictorial effect were brought out. The writer said that Beethoven's music was music of form or counter-point, and Wagner's the music of harmony or colour. He did not think the writer was altogether right or altogether wrong. There was one point on which he did not think the lecturer laid enough emphasis: the very powerful effect of music on the emotions, especially the heroic emotions. For instance, when he heard the "*Volklid*" he felt that he must fight somebody, and the effect of the "*Mar-seillaise*" was very inspiring. From another point of view, for the very essence of triumph, there was nothing to come up to Elsa's song when Lohengrin had vanquished Frederic. The Rev. F. C. Lambert, in reply, said in the lecture he had made use only of a few of the many notes he had before him, which would have dealt with the points raised by the speakers. The Chairman's remark sounded as if he desired to condemn everything which appealed widely to the people, and if that were so, Shakespeare would be rather out of it. Dickens, too, had a remarkable power of picturesqueness and getting hold of the public mind, which even Thackeray, with all his refinement, did not possess. In conclusion, he expressed the hope that they would follow up the subject and give the Club the benefit of their researches. The proceedings terminated with votes of thanks to the lecturer and Mr. Joll.

Aldenharn Institute.—The usual fortnightly meeting was held on the 1st inst., when the photographs contributed to the AMATEUR PHOTOGRAPHER "Enlargements" and "Hayfield" Competitions were passed round and greatly admired.

The Fry Manufacturing Co.'s Last Demonstration.—A demonstration by Mr. Herbert Fry on "Enlarging" was given at 5, Chandos Street, Charing Cross, on the 27th ult. The demonstration itself, the production of a 9-inch head from a quarter-plate negative, was the most interesting event of the evening. The next and final demonstration of this second series is fixed for Friday, December 11th, at 8 o'clock, subject "Lantern Slides."

Reviews.

Photographische Optik, zum Zwecke von Vorträgen im Club der Amateur-Photographen in Wien. Zusammengestellt von Anton M. Haschek. Published by Wilhelm Knapp, Halle a/S. Price 2s. 6d.

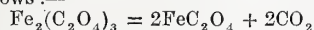
In his preface the author of this little work states that it is in no way intended to be a scientific work on photographic optics, but rather a popular exposition of the photographic lens and its use free from mathematics and formulæ. Bearing this in mind, we have to confess that the author has done his work well. We have first a clear description of various forms of simple lenses and their leading points, such as optical centres, axes, etc., the formation of real and virtual images, the action of prisms and the various aberrations. We have then a plain description of the different types of photographic objectives, the faults of the image produced by the lens, choice of and testing lenses. We note that in all the diagrams the author has unfortunately represented the passage of a ray of light the opposite to what is usual both here and on the Continent, viz., by reversing the points of the arrow; still, any intelligent reader would at once detect and allow for this slip, if slip it be. The optical lantern and stereoscope are also considered, and a very useful chapter on "Photometry and Sensitometry" is also included, and a chapter on Professor Toepler's apparatus for the photographing of air waves, and which the author describes as useful for detecting the internal strains or strise of lenses. The work will form a useful elementary handbook to photographers.

Quarterly Examinations in Photography.

Question 26.—What are the chemical changes which take place in printing with platinotype paper?

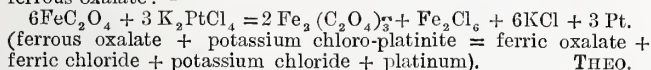
ANSWER.—The basis on which this process is founded is the reduction of ferric oxalate by the action of light into ferrous oxalate, and the further reduction of a platinum salt, by the ferrous oxalate, to a metallic state when wetted with a suitable agent.

In the hot-bath process the platinum salt, potassium chloro-platinite, is present in the paper; while, in the cold-bath process, the paper is coated with a solution of ferric oxalate, which contains also a slight amount of oxalic acid and mercuric chloride, and the platinum salt is present in the developer, which consists of a solution of oxalate of potash, containing the chloro-platinite of potash. The chemical change which takes place in the platinotype paper during printing is as follows:—



(ferric oxalate = ferrous oxalate + carbonic acid gas).

In the cold-bath process this is the principal action, but in the hot bath the following formula represents the further reduction by the ferrous oxalate:—



Question 27.—Describe the old calotype process.

ANSWER.—The original process, introduced by Mr. Fox Talbot in 1839 (published in 1841), consisted in brushing over one side of a sheet of good drawing paper with a weak solution of nitrate of silver (100 gr. in 6 oz.), and drying the paper cautiously at a distant fire, or in a dark place. Next, the paper was immersed for two minutes in a solution of iodide of potassium (500 gr. in a pint), taken out, dipped in water, dried lightly with blotting paper, and finished at a fire, or left to dry spontaneously. This was the iodised paper, which would keep if not exposed to the light.

The iodised paper was sensitised by brushing over it a solution of gallo-nitrate of silver, made by mixing equal volumes, as required for use, of a solution of nitrate of silver, 50 gr. to the ounce, with one-sixth of its volume of strong acetic acid; and a saturated solution of gallic acid in water. After half a minute the paper was dipped in water, lightly dried, and was ready for use. All these operations were performed in the evening by candle light.

The paper thus prepared, and named "calotype," was exposed in the camera for five to thirty minutes, or longer. With a short exposure no image was visible. The picture was developed by brushing over the paper some gallo-nitrate of silver solution, and holding it before a gentle fire for a short time (varying from a few seconds to a minute or two).

The picture was fixed by first dipping it into water, then partly drying with blotting paper, and next washing with a solution of bro-

mise of potassium (100 gr. in 8 or 10 oz.) or a strong solution of common salt.

After being washed and dried, this calotype negative was rendered semi-transparent by waxing, and from it positive pictures were obtained either by printing-out chloride of silver paper, or by fresh calotype paper and development, as for the negative.

It was found difficult to obtain satisfactory pictures by the above method of procedure, and the process was modified in the first instance by coating the paper with a solution of iodide of silver in excess of iodide of potassium, and floating the paper in water to re-precipitate the iodide of silver on its surface. A further improvement was effected by using a slight excess of nitrate of silver. The picture was developed by a solution of gallic acid and intensified by a solution of aceto-nitrate of silver.

The introduction of hyposulphite of soda as a fixing agent (4 oz. to the pint, price 1s. 6d. per pound), was a means of getting more perfect fixation than that afforded by common salt.

[We have no comments to make on the answers this week.—THE EXAMINERS.]

QUESTIONS.

(For Questions 34, 35, and 36—latest day for Answers, Dec. 14—see last week's issue.)

37.—Forward a portrait taken by the flash-light, and describe the arrangement of lights, etc.

38.—Give a list of the works you consider most useful for an amateur.

39.—State your method of exposing and developing a plate on a snow scene. Send an example of your work.

Latest Day for Answers, December 21st.

RULES.

1. Answers must be received on the date stated each week in the AMATEUR PHOTOGRAPHER.

2. All answers must be preceded by the question, and should be written on one side of the paper only, and each answer must be on a separate sheet or sheets.

3. A *nom de plume* may be used, and must follow every answer, and be affixed to every specimen of practical work.

4. Answers are not limited in length, but preference will be given to concise answers without unnecessary amplification.

5. Those desirous of competing must apply to have their names entered. As these examinations are intended to encourage the study of the theory and practice of photography, authorities upon photographic matters and contributors to the photographic journals will not be allowed to compete.

NOTE.—No information of any kind will be given to competitors, and nothing but the answers must be included for the examiners. All other communications must be addressed to the Editor.

Marks will be given for all answers, and, when possible, the best three answers will be published. The answer will not be published till the week following receipt of the same, and the examiners criticise each answer sent in, and when no satisfactory answer is received, will supply one. Three prizes will be awarded at the end of each quarter. (Full syllabus on application.)

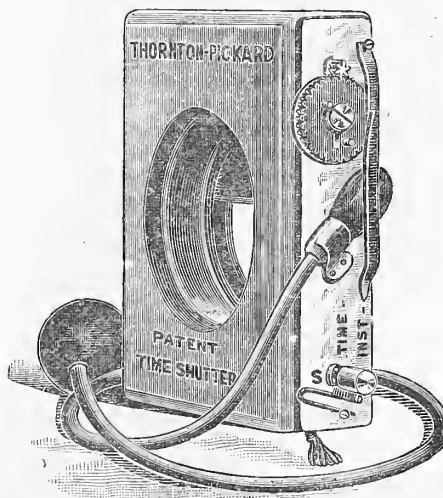
All communications to be addressed to:—"EXAMINATION DEPARTMENT," AMATEUR PHOTOGRAPHER, 1, CREED LANE, LONDON, E.C.

Apparatus.

THE THORNTON-PICKARD "TIME" SHUTTER.

We have received from the Thornton-Pickard Manufacturing Company, of St. Mary's Street, Deansgate, Manchester, a sample

of their latest improved "time" shutter, and it is now certainly capable of answering every possible requirement. In the sample before us the new lever for setting the shutter for either "time" or "instantaneous" does not require setting every time, as did the old pattern; the new speed indicator has been added, and one is able to see at a glance the speed at which the shutter is working. We think that, if it were possible, the shutter is even better made



than it used to be, and the makers state that several minor details have been improved, and that the sales of this shutter

during the past season show an enormous increase, and we feel sure that this last improved form will make the shutter even more a favourite than it is.

XYLONITE DISHES.

The British Xylonite Company, of Homerton, have just introduced a new celluloid or xylonite dish, perfectly transparent and of extreme lightness, which possesses all the advantages of glass dishes without the fault of fragility and weight. The price of the dishes is also very reasonable, being quite as cheap as glass and far more reasonable than porcelain.

"THE DORÉ" LANTERN SLIDE PRINTING FRAME.

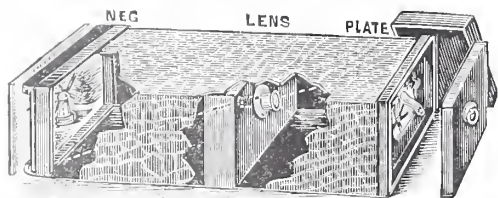
Mr. James Doré, of 27, High Street, Sandown, has forwarded for our inspection his new lantern-slide printing frame, which is a practical and useful invention. The points particularly noticeable about it are that it has no loose parts, and that negatives of any thickness can be printed from and from any part, and that there is no risk of breaking the negative. The frame can be obtained in any size, and the smallest negative can be used in the largest frame without any trouble. A vignetting arrangement can be used in front of the frame if desired, space being provided for that purpose. The price of the frame is 4s. 6d. plain, or 6s. 6d. polished, for quarter-plates.

EIKONOGEN CARTRIDGES.

Messrs. R. W. Grieff and Co., 29, Mincing Lane, E.C., have sent us a sample of their eikonogen-patrons or cartridges, which are most convenient for travellers, as sufficient developer may be carried in the waistcoat pocket to develop at least a dozen half-plates. The cartridges are little paper tubes, which when required for use are broken and the contents dissolved in $3\frac{1}{2}$ oz. of water and diluted as required.

GRIFFITH'S LANTERN-SLIDE CAMERA.

Messrs. Walter Griffiths and Co., Highbate Square, Birmingham, are making a special feature of their lantern-slide cameras, which are practical and time and labour saving. The camera, as will be seen from the accompanying illustration, takes the



form of a long box with a lens fixed at its correct position in the interior. At one end is the place for the lantern plate, which is held in position by a spring; at the other end are two grooves, one for the negative and the other for a sheet of ground-glass to equalise the illumination; a shield protects the plate from extraneous light. The cameras are made either square or oblong, and in all sizes, and at such reasonable prices as to put makeshift arrangements entirely out of the running. The Fry Manufacturing Company, 5, Chandos Street, Charing Cross, W.C., are the London agents, and will be pleased to show the cameras to anyone.

Blackheath Camera Club.—Mr. A. R. Dresser gave a very interesting paper on "Hand-Cameras" before the members of this Society at their ordinary meeting on the 24th ult. Dwelling at length on the subject of the lens, and pointing out that this and the shutter were the most important features, as they did the work, he proceeded to recommend a wide-angle lens of as short focus as possible to cover the plate, or a portable symmetrical of not more than 5 inch focus, and proved by an exhibition of lantern slides and prints, that there was no reason why the lines in a wide-angle should not be in focus if the camera be held level. A lens ought to give a good enough negative to make a 15 in. by 10 in. enlargement without showing perceptibly that it was not printed by contact (exhibiting some of his prints in illustration). The shutter should be reliable to work at will up to $\frac{1}{30}$ of a sec., although for ordinary work not more than $\frac{1}{10}$ was generally required. Speaking of the cameras he knew, those he was most pleased with were the "Miall" and a new one not yet on the market, with rising front and a good finder, by which the amount of foreground could be regulated.

Exhibitions.

TUNBRIDGE WELLS.

(Judges:—Sir D. Salomons, Bart, and Messrs. H. P. Robinson, and Charles W. Hastings.)

LIST OF AWARDS.—MEMBERS.

Sir David Salomon's Medal, E. R. Ashton.

AMATEUR PHOTOGRAPHER Silver Medal, W. E. Brampton.

AMATEUR PHOTOGRAPHER Bronze Medal, B. Whitrow.

Class 1 (Architecture, Exterior or Interior).—Silver, F. G. Smart; bronze, H. Lander.

Class 2 (Interiors, other than Architectural).—Silver, withheld; bronze, Joseph Chamberlain.

Class 3 (Landscape).—Silver, F. G. Smart; bronze medal, B. Whitrow.

Class 4 (Instantaneous, including Marine Subjects).—Silver, E. R. Ashton; bronze, F. G. Smart.

Class 5 (Genre).—Silver, Joseph Chamberlain; bronze, withheld.

Class 6 (Lantern Slides, best series of six, any subject).—Silver, J. W. Morgan; bronze, withheld.

Class 7 (Transparencies).—Silver, Joseph Chamberlain; bronze, F. G. Smart.

Class 8 (Best Photograph of Trees without Leaf).—A. W. Pierson.

Class 9 (Scientific, or any Subject not included in the above).—No competition.

OPEN CLASSES.

Amateur.

Class 10 (Landscape or Seascape).—Silver, A. Horsley Hinton; extra silver, W. Clement Williams; bronze, John A. Hodges.

Class 11 (Genre).—Silver, "The Seven Ages of Man," S. Francis Clarke; bronze, C. S. Roe.

Class 12 (Lantern Slides, best series of six).—Silver, W. Taverner; bronze, Edgar G. Lee; extra bronze, H. Sandland.

Class 13 (Architecture, Exterior or Interior).—Silver, C. Court Cole; bronze, W. H. Banks.

Professional.

Class 14 (Landscape or Seascape).—Silver, J. P. Gibson; bronze, H. J. Godbold.

Class 15 (Genre).—Silver, Lyd. Sawyer; bronze, Adam Diston.

Class 16 (Lantern Slides, best series of six).—Silver, withheld; bronze, James Dore.

Class 17 (Portraits).—Silver, W. J. Byrne; bronze, W. W. Winter; extra bronze, P. S. Lankester.

Class 18 (Enlargements).—Silver, J. E. Austin; bronze, A. R. Dresser; extra bronze, dry point or needle finished, Henry Flather.

APPARATUS.—Silver, W. Watson and Sons; bronze, A. Brooker, patent hand-camera; extra bronze, J. W. Morgan, patent hand-camera.

Our comments upon the exhibition will be given next week.

Ladies' Photographic Club.—Miss L. M. Wall writes:—"I am very glad to see that there is a prospect of a Ladies' Photographic Club being formed. Living on the borders of Dartmoor, my opportunities of photographic instruction are few indeed, so will you kindly add my name to the list of proposed members? I conclude that, for the benefit of country subscribers, reports of the lectures will appear in your paper, and also that photographs contributed by the members will go the round of the club, after criticism." Miss Hardman, on the same subject, says:—"I am delighted to see that I have gained a certificate for the Ladies' Competition. I have been getting very discouraged with my work lately, and have been giving up sending to your Monthly Competitions in despair, but I shall start again with renewed vigour, in the hope that I may yet get a medal. I hope that your suggestion of a Ladies' Photographic Club may be carried out. I have often wished for such a place, and should certainly join it, even though I might be unable to attend all the lectures."

"Amateur Photographer" Monthly Competition.

No. 31.—SEASCAPE AND RIVER SCENERY.

Pilot-boat leaving Ramsgate	H. Bateman, York.
Wear Dock	W. B. Dart, Torrington.
Rocky Heights that Over-	
look the Ocean	G. J. Wightman, Lewes.
Old Water Mill	Thos. Clarke, Witley.
The Dee, near Berwyn ...	Miss E. M. Shand, Chester.
Penton Bridge	W. R. W. Shand, Chester.
Stepping Stones	Percy Sheard, Batley.
River Scene	Miss Evelyn Helme, Warminster.
Dartmouth Harbour ...	A. C. Taylor, Peterborough.
On the Lyd	P. G. Bull, Clapton.
The Old Mill Stream ...	M. M. Pollard, Hafod.
On the Tarrant	G. S. Symons, Plympton.
The River Ouse at Bedford...	J. T. Birkbeck, Lincoln.
Beside Waters of Quietness	Henry Irving, Darwen.
Thornwick Headlands ...	F. Turner, Morecambe.
Bridge on the River Derwent	Wm. Maugham, Sheffield.
Off to Duty, Lowestoft ...	A. R. F. Evershed, Baintree.
Coasters at Lynmouth ...	G. H. Constantine, Manchester.
Off Handa Island	Mrs. S. E. Gaddum, Altrincham.
Winter on the Banks of the	
Ouse	Surg.-Gen. A. H. Beaman, Bedford.
On the Conway	Thos. Leach, Smallbridge.
A Scotch Burn	A. Millar, Forfar.
When the River Widens ...	W. Cooper, jun., Frome.
Cliff End	Miss Louisa Rhodes, Hastings.
<i>The Lord of the Isles</i> ...	Dr. Theodore Davis, Clevedon.
The Church Bridge	C. A. Swift, Sedbergh.
On the Conway	Jas. G. Jones, Bettws-y-Coed.
On the Avon	Chas. Smallbridge, Ivybridge.
A Bend in the River... ..	A. C. Batty, Liverpool.
Back from Fishing Ground	F. W. Kent, Clapham.
Abandoned	Hugh T. Bridger, Hampton.
On the Orchy, near Dainally	Mrs. C. S. Grace, St. Andrews.
At Kingston-on-Thames ...	Wm. Dawes, Plumstead.
Duncheon Ghyll	R. L. Kingsford, Cambridge.
Off Brixham	W. T. Crank, Clifton.
Fall on the Rivelin	G. H. Westlake, Sheffield.
Margate	Rev. G. F. Sharland, Thurlow.
The River Bain	Ed. Mason, Askrigg.
Conisboro'	Wm. Mason, Rotherham.
An Autumn Evening	C. H. Woodhouse, Hereford.
Down the Stream	Warwick Sawyer, Burslem.
Cluny River	Henry Bury, Bayswater.
Creek near Busreh (Turkish	
Arabia)	T. A. Cunningham, Greenock.
The River Jed	Gaynor Bury, Bayswater.
On the Ribble, near Clitheroe	W. H. Bibby, Blackburn.
A Devonshire Stream ...	A. James, Barry.
Larne Harbour—Evening ...	Jas. A. Pollock, Belfast.
Wye Dale, Derbyshire ...	Miss Agnes Bradwell, Louth.
The Beggars' Bridge	C. H. Davis, Richmond.
Sunbury Lock	F. S. Worsley, Old Charlton.
The Thames at Richmond ...	Walter P. Willey, Louth.
Defying Wind and Storm ...	Ernest Winn, Selly Hill.
Whittlesea Dyke	Tom Turnell, Strand.
A Favourite Spot on the Dee	Miss Annie Potts, Chester.
At Oie Norangfiord, Norway	G. J. Jones, Malton.
Shillingford	Leo. Thirkwell, Bermondsey.
On the Waveney	Rev. Chas. Gape, Rushall.
Sonning Bridge	Jas. A. Booth, Reading.
On Conway River	S. L. Coulthurst, Manchester.
Breakers	W. Gladstone, Bo'ness.
The West Sands, St. Andrew's	R. A. Rayner, Edinburgh.
St. John's, Cambridge, from	
the River	Gerald Strickland, Leamington.
A Spring Evening	Miss E. Broughton, London.
Sunlight on the Sea... ..	Rev. Thos. Perkins, Shaftesbury.
A Quiet Spot, Venice	Miss Margaret Watson, Florence.
Babbacombe Bay	R. A. R. Bennett, Oxford.
Glenleg Stream	F. R. Ball, Clapham.
Torpedo Experiment	Geo. Preston, Saltash.
On the East Lyn	Douglas A. Wright, Torquay.
Looking Down the Tees ...	W. R. Ferguson, Newcastle-on-Tyne.
The Swan on Still St. Mary's	
Lake	John H. Gear, London.
The River Tamar	W. E. P. Bastard, Crown Hill.
Lea Study, Bognor	Hubert Nye, Clapham.

The Ferry	John H. Welch, Liverpool.
Old Mill on the Avon ...	E. J. Appleby, Bath.
The Dim Seen River ...	E. Gauntlet, Peckham.
November Afternoon on the	
Thames	G. W. Ramsay, Richmond.
Lowestoft Harbour	Charles Stephens, Reading.
Salmon Leap on the Dove...	J. Thompson, Burton-on-Trent.
By Pleasant Fields and	
Pastures Fair	F. G. Benson, York.
A Relic of the Past	H. Goodwillie, Dublin.
Teignbridge, S. Devon ...	William Wise, N. Cadbury.
Under Repair	George West, Holloway.
A Trout Stream in the Black	
Forest	R. T. Fretwell, Dartmouth.
On the Dove	R. T. Walliser, Uttoxeter.
Dove Bridge	F. Udall, Uttoxeter.
Brixham Trawlers	W. Hargood-Ash, Bath.
Southampton Breakwater ...	Miss B. Cooper, Reading.
Beach Head	T. C. Moreland, Belfast.
Yachts off Ryde	Miss C. Hunt, Reading.
Petit Tor	G. White, Salisbury.
On the Cart, Pollok... ..	Duncan Brown, Glasgow.
A Hazy Morning	Reginald Churchill, Burton-on-Trent.
Ferry Boat, Windermere ...	Harry Holt, Liverpool.
Richmond Bridge	J. Caesar, Twickenham.
On the River Cart	Henry W. Campbell, Glasgow.
The Wye at Monsal Dale ...	S. J. Bradburn, Manchester.
River Rothay	R. A. Wheatley, Oxford.
The Tail of Tyn-y-cae ...	Benj. Brandreth, Hoylake.
Pell's Wharf, Beccles	R. W. Copeman, Blandford.
A Steamer Ghat, Assam ...	John A. Macadam, Assam.
Gannochy Bridge	George R. Fowler, Forfar.
The Thames at Richmond ...	P. Ennis, Richmond.
Break of Day, off Lytham ...	T. Moreley Brook, Manchester.
On the River Lea	W. J. Battell, Walthamstow.
Near Donnybrook	J. M. Keogh, Dublin.
A German Ferry	Chas. R. May, Clapham.
The Basin, Ramsgate Harbour	Alec Boley, Clapham.
Off Greenwich	James Dudin, Enfield.
On the River Gryffe... ..	A. L. Spiller, Hampstead.
Babbacombe Beach	N. M. Hinshelwood, S. Kensington.
Medway at Maidstone ...	J. J. Rix, Lewisham.
River Leader... ..	Viscount Maitland.
Nase's Crossing, Nerepis River	F. H. J. Ruel, St. John, N.B.
In Tow	A. H. Webbing, Brighton.
Going Out to Sea	Arthur J. Golding, Tufnell Park.
Ventnor, Isle of Wight ...	W. N. L. Davidson, Kensington.
Yacht <i>Skylark</i>	L. Brown, Penge.
Little Malta	H. A. Couchman, Maidstone.
Rest	J. R. Matthews, Carlisle.
Frimley, Basingstoke Canal	W. B. Windeler, Long Ditton.
The Shaded Pool	John R. Bailey, Kensington.
Lestcombe	C. H. Cosens, Hyde Park.
Marlow Weir... ..	F. W. Rowe, junr., Great Marlow.
The Kennet	A. E. Western, Marlborough.
Footsray, Kent	E. Enmorfopoulos, London.
Oil Purfleet	G. E. Harris, London.
River Donat, Sprotboro' ...	Alex. J. Paterson, Barnsley.
Falls of Bruar	S. G. Richardson, Tranent.
On the Wear	Hugo Meynell, Stoke-on-Trent.
Isola Ferry, Lombardy ...	Stanley C. Bright, Genoa.
Early Spring, on Eden River	G. L. Snowball, Newcastle-on-Tyne.
River Dee at Dinnet... ..	W. Todd Moffatt, Aberdeen.
At the Mouth of the Lyn ...	T. J. Hughes, Woolwich.
A Rough Corner	Geo. C. Jardine, Stamford Hill.
Denham Bridge	R. Hart France, South Hampstead.
The Mole at Dorking	Albert H. Payne, Brockley.
The River Braan	Miss Ellen Graham Stone, Willesden.
At Low Tide	L. J. Steele, Holland Park.
Troubled Waters	Thos. Ballantyne, Glasgow.
Fallock Falls	(No name in entry form.)
Innishannon Bridge... ..	Rev. J. H. Cole, Cork.
Troubled Waters	Thos. Ballantyne, Glasgow.
Early Spring, on the Eden ...	G. L. Snowball, Gosforth.
Port of Algiers	Miss Dillon, Shipton.
At the Close of the Day ...	A. H. Rudge, Wolverhampton.
The Bend of the River ...	J. Bulbeck, Havant.
Hoghton Mill	Mrs. Benyon, Huntingdon.
The Evening Tide	E. H. Harrison, Douglas.
Furwdgrech Waterfall ...	C. A. Brightman, Bristol.
Ifley Mill	G. Smith, Oxford.
Pont-y-Pair	Ed. Sampson, Sheffield.
On the Thames at Temple	
Lock	W. R. Weir, Rickmansworth.
Coast, near Ventnor	R. W. Branthwaite, Rickmansworth.

Societies' Meetings.

Aberdeenshire.—The ordinary monthly meeting of the Society was held in the Queen's Rooms on Tuesday, the 24th ult., the President (Mr. W. Todd Moffatt) in the chair. There was a fair attendance of members. The President delivered his inaugural address, dwelling in succession on the various objects of the Society, and particularly on the necessity for individual exertion on the part of members to make the Society a success. After the address, several members took part in the discussion; the subject of securing rooms being remitted to the Committee to consider and report. A hearty vote of thanks brought the meeting to a close. The next meeting will be on the 15th inst., and will be devoted to discussing questions and difficulties encountered by members and submitted to the meeting.

Ashton-under-Lyne.—The usual weekly meeting was held on the 25th ult., Dr. A. Hamilton (President) in the chair. The evening was devoted to an exhibition of the AMATEUR PHOTOGRAPHER 1891 Prize Slides, a large gathering of members and friends availing themselves of the opportunity of seeing them, the slides by Messrs. Austin, Wade, Cobb, and Lee coming in for the greatest share of applause. Slides by the following members were afterwards shown:—Mr. J. W. Kenworthy (Norway), Mr. W. Chadwick (various), Mr. G. R. Caudelet (Chester).

Barrow-in-Furness.—A meeting of the photographic section was held on the 26th ult., when the AMATEUR PHOTOGRAPHER 1891 Prize Slides were shown on the screen before a good audience of members and friends, and were thoroughly enjoyed. The general opinion was that they were of very fine quality. The slides were shown by Mr. Timms (one of the members) with his triple lantern, which was managed with excellent effect, the dissolving, horizontal, and vertical curtain effects being very effective. Mr. R. Spencer, F.C.S., read the descriptions. A vote of thanks was heartily accorded to the Editor of the AMATEUR PHOTOGRAPHER for the loan of slides.

Bath.—A meeting was held on the 26th ult., Mr. W. Humphrey in the chair. Rev. E. A. Purvis discoursed on the subject of bromide paper enlarging, practically illustrating the same by means of a Hume Cantilever apparatus, which he exhibited and explained the details of. Some good examples produced before the assembly, and others in a finished condition, were then shown, and an interesting discussion followed. The Chairman spoke of the careful manner in which the apparatus had been constructed. Mr. J. Dugdale related how he made enlarged photographs by daylight, and he mentioned that several specimens he had in the room were produced by means of oblique sunlight. Mr. Swain showed and referred to an enlargement he made without using a diffuser. Mr. P. Braham advocated the oxy-hydrogen gas jet as producing the sharpest image. Mr. Austin J. King said he did not get evenly lit enlargements when employing burning magnesium ribbon as an illuminant.

Birmingham.—The annual meeting was held on the 26th ult., the President, Mr. J. B. Stone, J.P., in the chair. In moving the adoption of the report (which had been printed and circulated), the President strongly advised members to take up special work, and to excel in it, to increase interest in photographic exhibitions by enlisting the sympathy of the public with novelty, improvement, and advancement. He congratulated the Society on its report, and the excellent attendance at its meetings. The officers and Council elected to serve in the ensuing year are—President: J. B. Stone, J.P.; Vice-Presidents: W. J. Harrison, F.G.S., E. H. Jaques, and J. J. Button; Council: F. S. Goode, W. Jones, A. J. Leeson, A. R. Longmore, G. A. Thomson, T. Taylor, E. Underwood, and G. Wilkes; Librarian: W. S. Horton; Treasurer: W. Rooke; Secretaries: J. T. Mousley and A. E. Tucker. The President presented the late Secretary (J. H. Pickard) with a Watson's whole-plate camera and three slides, on behalf of the members, as a souvenir of their esteem and goodwill, and in appreciation of the many services he has rendered to the Society. Mr. Pickard, in responding, said: "In accepting this memento of your esteem for me, I feel I must thank you in the highest degree, not only for its intrinsic value (for it is a valuable one), but specially for the good wishes which prompted it, and which convey to me your hearty goodwill and appreciation of what I have done as your Hon. Sec. during the last five years. The position of Hon. Sec. in a large Society like ours is an arduous one and, at times, somewhat difficult; but my work has been considerably lightened by the kind help and co-operation of my colleagues and co-Secretaries, Messrs. Karleese and Rooke, and, lastly, Mr. Leeson. During my term of office important events have occurred, viz., the visit of the Convention of the United Kingdom, which, I am happy to say, was carried out without touching the funds of your Society. The heavy debt we were saddled with by the London executive was entirely defrayed by the generous donations from your members. Then there is the pleasurable incident of the National Challenge

Cup, won by the society for two consecutive years. I hope sincerely we shall win it again. The society during my secretaryship has increased from sixty members to about 200, and we have now the privilege of a club-room which has been much improved lately, and your Hon. Librarian, to whom great thanks are due, has secured for you an excellent library, which few provincial photographic societies possess. Although resigning the post of Hon. Sec., I shall still be with you as Hon. Sec. of the Warwickshire Photographic Survey, of the work of which there will soon be a public exhibition. One of the photographic papers has designated it "the much-vaunted survey of Warwick." Well, I can assure you *they* will some day be surprised. It is not the hurrying together of a collection of any kinds of photographs or a set of lantern-slides to be called a survey, but a number of your fellow-members, headed by your President, are determined over the matter, and are putting the work together gradually, creditably, and well. When the work is accomplished—it may be some few years hence—great honour will be due to those who have helped to obtain the useful record to be handed over to the city authorities. In again thanking you for your presentation I can only say that this and the equally valuable one I received a few weeks ago from your Council, will always remind me in years to come of a goodly recognition of my services as your Hon. Sec., and of the good wishes of my photographic friends.

Bristol.—The first meeting of the session was held on the 20th ult., at 10, St. Augustine's Parade, when a considerable number of members were present. The Secretary reported the promised subjects for consideration during the remainder of the session. The members then passed round specimens of their work, negatives and prints, done during the past season. Several new members were introduced, and the Society anticipates a most successful career. A new feature is the opportunity of meeting every Friday evening, alternate evenings being for quiet discussion and for programme business.

Cheltenham.—On the 17th ult. Mr. Lewis gave a demonstration of the development of Kallitype paper, No. 2, before a good muster of this society. After a vote of thanks to Mr. Lewis, the oxy-hydrogen lantern was brought into use, when Dr. G. B. Ferguson showed a number of excellent slides, all of which were made from hand-camera negatives. Mr. L. Winterbotham and Mr. J. Bull followed with some interesting slides. On the 24th ult., at the ordinary weekly meeting, the exhibition and trial of lantern slides was continued by a number of members, when the President, Mr. E. Wethered, showed a number of very instructive photo-micrographic slides, Mr. Bagnell, General Knox, Mr. Clifford Nash, and Mr. Beetham also showed some excellent work, the cloud effects of Mr. Beetham being especially excellent.

Cornish.—A meeting was held on the 23rd ult. The Hon. Sec., Mr. H. Tonkin, exhibited fifty bromide enlargements, each 2½ by 19 and afterwards passed through the lantern a number of slides contributed to the slide competition of a contemporary. There was a large attendance.

Coventry and Midland.—"Rambles in and about Columbus, Ohio," was the subject of an illustrated lecture delivered to the members and friends of the society at the Technical Institute, Coventry, on the 25th ult. The lecture from beginning to end was full of interest, and was duly appreciated by a fairly large audience. The slides were illustrative of American scenery, and were the work of the Boston Camera Club. They are being circulated among the amateur photographic societies of this country through the medium of the Liverpool Photographic Society. Many of the views were typical of the picturesqueness of American landscape scenery, while others depicted with clearness the principal institutions and thoroughfares in Columbus. Mr. Orton read the descriptive part of the lecture, and Messrs. Owen and Harker manipulated the lantern. After the lecture several views of English seaside life, taken with a hand-camera by Mr. Owen, Secretary of the society, were shown and greatly appreciated. The next illustrated lecture of the society will be on Thursday, the 10th inst.

Derby.—The members of the above society met on the 27th ult., to witness an exhibition of prize slides; the slides were magnificent, and were much appreciated by those present.

Devonport.—At the last meeting the President, Mr. J. B. Huddy, was in the chair, and after the regular business had been disposed of, prize slides were exhibited by Mr. J. Coombes. During the evening a few pictures, taken with a new shutter the invention of Mr. E. H. Micklewood, of Plymouth, devised to obtain natural sky in every picture, were shown, and evoked thorough appreciation.

Douglas, Isle of Man.—At the usual monthly meeting on the 24th ult., the President in the chair, a demonstration of lantern slide making was given by Messrs. Harrison and the Secretary. Several members brought negatives on which different makes of plates were tried, different exposures given, and, at the President's suggestion, two slides received double the usual exposure, with the view of producing slides more true in tone to nature or, as the President remarked, with less soot and whitewash. The slides will be put through the lantern at the next meeting. At the close of the demon-

stration a discussion was raised as to the advisability of continuing the use of the lime-light, in consequence of the disastrous explosion which recently occurred at Ilkeston. The President considered the risk of life and property too great to use the light for mere amusement, and brought forward a motion to discontinue its use at the Society's lantern exhibitions, and, in his opinion, oil was sufficiently brilliant to do justice to any slide he had yet seen. A spirited discussion then ensued. It was ultimately decided, on the motion of Mr. Johnson, to adjourn the discussion until full particulars were known as to the cause of the disaster at Ilkeston.

Dundee and East of Scotland.—The second general meeting of the Dundee and East of Scotland Photographic Association was held on the 19th ult., in Lamb's Hotel. There was a fair attendance of members. The chief business of the evening was a demonstration by Mr. W. H. Smith. This gentleman brought under the notice of the members a new rapid bromide paper, which could be toned to a sepia tint—a colour preferred by many to the cold steel-blue tone of ordinary bromide paper. Referring to the Kodak camera, he recommended the quarter-plate size as being the handiest and best. The best distance at which to photograph with a hand camera he considered to be from 20 to 25 feet. Mr. Smith exhibited a fine series of lantern slides, comprising views in England, Wales, and several Continental countries, all taken with a Kodak camera on quarter-plates and the 5 by 4 size. In the competition for enlargements the prizes were awarded as follows:—(1) Mr. D. Ireland, two views of a Norwegian fjord; (2) Mr. J. W. Munro, St. Monans and Perth Bridge.

Exeter.—The first annual exhibition and "At Home" in connection with this Society was held on the 24th ult., in the College Hall, South Street, Exeter. The Society, of which Dr. Cheese is the President, and the Rev. John Sparshatt the Hon. Secretary, has forty-five working members, besides a large number of honorary members, and the 350 or so pictures, tastefully arranged in the College Hall, do high credit to the zeal and ability of the several exhibitors. The subjects dealt with were exceedingly varied, and whilst outdoor scenes embrace several from many parts of the world, both along and out of the beaten track of the tourists, the home pictures present some of the most charming spots in the United Kingdom. The interiors of halls, drawing-rooms, churches, etc., are also produced with marked effect, and that greatest difficulty of the amateur photographer—portraiture—had been dealt with with a fair measure of success. During the year prizes were offered for collections of six pictures, and this resulted in some really good work being done. The first, a set of silver salts, was won by Major Dowdall for his six very fine whole-plate bromide prints, which included the interiors of Haddon Hall, Warwickshire, Hardwick Hall, Warwickshire, the chapel in Haddon Hall, and the exterior (west front) of Exeter Cathedral. The second fell to Colonel Hutchinson for six platinotypes, which showed amongst them the Gorge at Lydford, an old mill at Peter Tavy, and parts of Exeter Canal. For third place there was a tie between Messrs. Sharland and W. Pearce. Conspicuous amongst those of Major Dudley was a fine collection of lantern slides. The exhibitors included Miss Truscott, the Rev. J. Sparshatt, Messrs. F. A. G. Drake, E. Dudley, F. C. Sharp, J. W. Lake, J. Hinton Lake, John Berrie, W. W. Norton, P. G. W. Fenwick, Charles Cole, Loram, J. W. Huggins, F. Sharland, A. Norman, and H. J. Holden. As in other places, the Exeter Amateur Photographic Society is making a survey, and everything that is worth preserving in the old city will be submitted to the lens. There was a good attendance when the exhibition was formally opened by Lady Northcote, who is an honorary member of the Society. The President (Dr. Cheese), in his opening remarks, briefly sketched the history of the Society and its objects, and Lady Northcote stated that, whilst not an amateur photographer herself, she thoroughly appreciated the many uses of the art. She feared many, when abroad, made most extensive enquiries as to the buildings, but when at home they took no interest in the fine erections in our own country, and knew little of the natural beauty of their island home. A vote of thanks to Lady Northcote concluded the proceedings. The "At Home" was repeated on the following day.

Fakenham.—On the 21st ult., in the Infant National Schoolroom, before a good audience, Mr. Henry Newson exhibited the AMATEUR PHOTOGRAPHER 1891 Prize Slides. The views were well shown and greatly appreciated.

Frome and District.—This Club continues to flourish, and has now entered upon a course of winter meetings. The first annual meeting was held in the club's new rooms at the Temperance Hall in September. On October 22nd Mr. W. Cooper gave an interesting paper on "Development," which was followed by a discussion, in which the Rev. H. B. Hare (the President) and others took part. The November meeting took place on November 26th. Mr. E. Brightman had promised to give a demonstration on "Lantern-slide Making," but, unfortunately, was prevented by illness from attending. How-

ever, at short notice, the Vice-President, Mr. W. A. Turrell, kindly brought his lantern and gave a delightful account of his trip to Norway, after which a general discussion on photography followed. For the next three meetings there were promised demonstrations of "Lantern-slide Making," "The Chemistry of Photography," and "Enlarging." The club have a dark-room, which is at the disposal (free of charge) of members of other clubs, on communicating with the Hon. Secretary, Mr. A. W. Dalby.

Glenalmond.—A general meeting was held on the 28th ult., the President taking the chair. Mr. R. Johnston read a very interesting paper upon the "Platinotype Process," with practical demonstrations. The lecturer, who was listened to with great attention, gave an account of the mode of preparing platinotype papers and their development, and the various kinds which have been put into the market. After the reading of the paper, the President, having proposed a vote of thanks to Mr. Johnston, went on to make a few remarks on the chemistry of the process. There was a large attendance and a good display of photographs, lantern-slides, opals, etc., after the examination of which the club adjourned till December 12th.

Holborn.—The Committee of the Holborn Camera Club have engaged Bloomsbury Hall for Monday, December 14th, when the AMATEUR PHOTOGRAPHER 1891 Prize Slides will be personally exhibited by Mr. Charles W. Hastings. Complimentary tickets have been sent to the various London photographic societies, etc.

Hull.—On the 19th ult. a demonstration was given before the members of the above Society by Mr. J. S. Green, of the firm of Mawson and Swan. The President (Mr. A. E. Howett) presided. The demonstration comprised printing and developing bromide paper. Mr. Green made a number of practical illustrations in developing, etc. A hearty vote of thanks was accorded to Mr. Green for his interesting and instructive demonstration. On the 26th ult. Mr. J. H. Allcott read an interesting paper on "The Amateur Photographer's Ideal." He advised all amateurs to let portraiture alone, at least, for a time, until they had got more experience in their work. He (the amateur) should endeavour to make himself thoroughly acquainted with all photographic processes and methods, and the tools with which he worked, when all difficulties would vanish before the ardour of the earnest student. He should make himself acquainted with the allied science of chemistry and optics, to ascertain what is really done by his appliances. Photography was not a mere pastime, it was a pursuit worthy of the attention of the brightest intellect, and would not be thoroughly comprehended by any but those who, out of pure love of the subject, were willing to give much time and attention to it. If ambition formed part of the student's nature, he would endeavour to strike out a new path for himself, and his ideal would be to impress individuality on his work. Here again numerous difficulties would beset his path, which could only be overcome by persistent study and work, but to the courageous and determined mind all this would only lend incentive to the pursuit of his hobby. Having overcome the difficulties of manipulation, the difficulties from the artistic side have to be overcome. Art was not a thing of rule or measure, not a pictorial compound multiplication sum lending itself to strictly logical or mathematical tests and proofs; it was in itself of an ideal nature, and, therefore, to a great extent imaginative. It acknowledged some rules, such as perspective, but it was largely a law unto itself, not to be judged by its application of the rule of three nor the axioms of geometry. But here again, diligent study of the work of great masters in the art would lead to ultimate triumph.

Liverpool.—The annual meeting of the 28th session was held at the Law Association Rooms, Cook Street, on Thursday evening, the 26th ult., Mr. Paul Lange, the retiring President, in the chair, and there was a large attendance. The following were unanimously elected members of the Association: Col. H. J. Robinson, Fred Glibborn, J. E. D. Parker, J. C. Still, Geo. H. Jackson, Geo. F. Allender, Miss Harvey, Percy W. Dixon, Geo. Allday, R. E. Roberts, and Dr. Dubourg. The Hon. Secretary, Mr. E. M. Tunstall, submitted an exhaustive report of the Society's proceedings during the year, which stated there was now a membership of 303. The report was unanimously adopted. Mr. P. H. Phillips, the Hon. Treasurer, presented the balance-sheet, which showed that the total receipts for the year were £178 1s. 10d., against an expenditure of £173 19s. 2d. The election of officers for the ensuing year was then proceeded with. President: Mr. W. Tomkinson; Vice-Presidents: Mr. Jos. Earp and Mr. A. Tyrer; Hon. Librarian: Mr. J. Woolfall; Hon. Treasurer: Mr. P. H. Phillips; Hon. Secretary: Mr. F. B. Illingworth; and the following to fill the vacancies created by the retiring members of the Council, viz., H. B. Millar, F. H. Glazebrook, Dr. Kenyon, and F. Anyon. The result of the prize competition, which it was stated compared very favourably with previous years in point of number of exhibits and artistic excellence, was afterwards announced, and an exhibition of lantern slides sent in for competition, to the number of 132, fol-

lowed. Messrs. R. Talbot Kelly, Edward Whalley, and Geo. E. Thompson acted as adjudicators, and were accorded a hearty vote of thanks for their services. The following is the list of awards:—(11) Sets of six prints, half-plate and under: silver medal, J. H. Welch; bronze medal, H. J. Mallabar; highly commended, H. Lupton. (5) Sets of six prints, over half-plate: silver medal, T. F. Lloyd; bronze medal, H. Holt. (7) Sets of two enlargements: silver medal, T. B. Sutton; bronze medal, J. T. Norman Thomas; highly commended, F. B. Illingworth. (9) Sets of six pictures, hand-camera work: bronze medal, J. W. Swindon; commended, J. H. Ashcroft. (7) Sets of six prints, not previously awarded: bronze medal, H. Holt; highly commended, E. A. Councell; commended, E. S. Gladstone. (3) Sets of stereoscopic slides: bronze medal, W. L. Elsworth. (22) Sets of six lantern slides: silver medal, F. Anyon; bronze medal, A. Tyrer; highly commended, T. B. Sutton.

Loughborough.—The first meeting of this section for the winter session was held on the 25th ult., when the arrangements for the forthcoming meetings were made. A limelight lantern show, superintended by Mr. W. Clark, was the concluding feature, when slides made by Messrs. Burder, Kelsey, Handford, and Tucker were exhibited. Prints of the new work of last summer were exhibited by some of the members. Some very fine enlargements by Mr. Burder were much admired. The President (Mr. J. B. Colgrove, M.A.) was in the chair.

Newport.—The third free lantern exhibition of this club was given by the President, Mr. E. H. Watts, F.R.G.S., on Tuesday, the 24th ult., and notwithstanding the local prevalence of *la grippe* and a bad night, some 400 were present as visitors to see an admirable series of slides of American scenery. At the close of the series, the Hon. Secretary publicly announced the coming of Mr. Gambier Bolton, F.L.S., F.R.G.S., who had been engaged for the club's second public lecture on the 15th inst. The opportunity was taken of giving Newportonians a foretaste of Mr. Bolton's work. Two slides, the lion "Majesty" and the well-known "Kitten" study, "a world of wonder in her eyes," kindly sent for the occasion by Mr. Bolton, were much applauded.

Newcastle-on-Tyne.—A selection of the 268 slides sent into the Association Competition were shown before an audience of over 700, in the Lecture Hall of the Literary and Philosophical Society, on the evening of the 25th ult. The beautiful flower studies of Mr. J. Carpenter, London (who received one of the silver medals), were greatly admired. Messrs. G. E. Thompson and J. W. Wade's slides were very fine, and the genre studies of Mr. W. J. Anckorn also call for particular mention. The slides sent in, on the whole, were of a very high average, and the show was perhaps the finest ever given by the Association.

North Kent.—A meeting of this Society took place on the 26th ult., Mr. I. C. Johnson, J.P., President, in the chair. The subject for the consideration of the meeting was "Developers." The majority decided in favour of pyro and soda, but some difference of opinion was expressed.

North London.—A meeting was held on the 1st inst., the Rev. E. Healy in the chair. Mr. Edward Clark was elected a member of the society. Questions were asked from the question box as to the mode of light measurement, and also as to a mineral-oil light for optical lanterns which would not give off a smell when burning. On the first question a short explanation was given by the Secretary, a more complete description to be given at a future date. To the second question no answer could be given, it being generally admitted that the question of smell was largely, if not entirely, a question of cleanliness and care in using, without which all mineral-oil lamps must, of necessity, be offensive. The evening being an "Optical Lantern Night," a large number of interesting slides were shown by the aid of the society's lantern, under the management of Messrs. A. Mackie and B. J. Groves. The slides comprised Wales, Devonshire, Epping Forest, etc., by the Rev. E. Healy; on views in the Yare, by Mr. Brewer; Holland and Belgium, etc., by Mr. Hume (taken with the "Quadrant" hand-camera); Hastings, etc., by Mr. Tanner; flowers, by Mr. Taverner; Jersey, by Mr. Douglas; and Devonshire, etc., by Mr. Grover. Mr. Parfitt showed the slides which were prepared by him for the recent competition at the London and Provincial Society, in which he was one of the prize winners. Mr. A. Mackie was appointed chairman of the next meeting, to be held on the 15th inst., when a demonstration of "Carbon Printing" is to be given by the Secretary, Mr. W. Bishop. Members wishing to take part in the lantern-slide competition should send in their names to the Secretary as soon as possible.

Nottinghamshire.—On the 23rd ult., a lecture on "Tricks of the Dark-Room" was given by Mr. R. S. Armitage. The lecturer showed a very ingenious clock for timing exposures in lantern-slide making. He also showed the positions of horses' legs in walking by means of instantaneous photographs. The horse was proved to raise both legs on one side in walking, and not, as artists generally painted them, fore and hind leg on opposite sides.

Oldham.—The ordinary monthly meeting of this Society was held

on Thursday evening, the 26th ult., Mr. Wallace Thompson, President, in the chair. Messrs. W. Lees, J. Ogden, T. Wild, and F. Wilkinson were elected members. The President received the congratulations of the members present on winning the Silver Medal in connection with the AMATEUR PHOTOGRAPHER Monthly Competition "Architecture," and briefly responded. Mr. J. A. Furnival, of Manchester, gave a most interesting description of "The Optical Lantern: its Construction and Use," describing in detail the manipulation of gas bottles, the construction of the mixed and blow-through jets, the optical arrangements, etc.; after which he threw on the screen by means of his lantern microscope, various interesting examples of micro-photography. He maintained that high powers could not be used in the lantern microscope without great loss of light, and that no alum trough was required to counteract the rays of heat emanating from the oxy-hydro light. His discourse was listened to with great attention by the many lanternists present. The Secretary wished the members to turn up in full force on December 17th, when Mr. J. W. Wade, of Manchester, would give a lecture on "Hand-Camera Work, etc."

Phot. Soc. of Great Britain.—At the ordinary meeting on Tuesday next at 8 p.m., the adjourned discussion on Mr. Warnerke's paper will be taken, and a paper will be read by Mr. A. Pringle on "Photomicrography." On December 22nd the subject for discussion will be "Photography by Artificial Light." December 29th will be lantern evening.

Phot. Soc. of Ireland.—The usual monthly technical meeting of this Society was held in the rooms, 15, Dawson Street, Dublin, on Thursday, the 26th ult., Mr. M. Hedley in the chair. An interesting paper on "Stereoscopic Photography" was given by Mr. J. H. Woodworth, who went exhaustively into the subject, and was listened to with pleasure and profit by the members present.

Richmond.—The first annual dinner of the club was held at the Greyhound Hotel on the 23rd ult., when a good proportion of members and a few visitors sat down to an excellent repast. Mr. Cembrano, the President, was in the chair, and a very pleasant evening was spent. At the weekly meeting on the 27th ult., Mr. R. L. Kidd presided, and Mr. Cembrano gave a demonstration of the "Making of Collodio-bromide Emulsions and their Use for Transparency Work," showing and explaining the whole process of making the collodion, bromising and sensitising it, washing the emulsion, and cleaning, edging, and coating the glass. He concluded by exposing and developing some lantern-slides, and explaining the method of toning them.

Shropshire.—A special meeting was held on the 20th ult., Mr. J. R. Greatorex, President, in the chair. The Chairman exhibited specimens of the new Ilford print-out paper, which were greatly admired; and Mr. Martin J. Harding gave a demonstration in development of Kallitype prints to illustrate a brief and interesting paper which he read on the process, affording much valuable instruction to members. An American series of views of the White Mountains was then projected on the screen by Mr. R. J. Irwin, who used his own lantern and oxygen apparatus. Slides by Mr. R. Budicom and Mr. Della Porta were also exhibited, and a pleasant evening was closed with the usual votes of thanks, moved by Mr. Bidlake.

Wakefield.—On the 27th ult. Mr. W. M. Smith delivered a lecture on "Hand-cameras," and gave a demonstration and lantern exhibition at the Technical and Art School. Mr. Isaac Briggs, one of the Vice-Presidents, occupied the chair.

West London.—The ordinary meeting of the above society was held on the 27th ult., Mr. Charles Bilton, B.A. (Vice-President) in the chair. A letter was read from the Photographic Society of Great Britain with regard to the question of affiliation with that society, when it was determined to postpone consideration of it to a later meeting. The rules of the forthcoming exhibition were read by the Secretary, and will be forwarded to the members in a short time. Mr. John Howson then gave a lecture and demonstration of the "Alpha" paper to the meeting, and having brought some exposed papers with him, developed them before the members, and then toned and fixed them in one bath, showing the different tones that can be got by stopping the action of the gold at different times. Questions were asked by Mr. Whiting as to the mounting of the prints, and by Mr. Hodges as to using the paper for enlarging which Mr. Howson said was too slow for practical purposes in England, though much used abroad and in the colonies. The next meeting will be held on the 11th inst., when Mr. T. Charters White will give a demonstration with the lantern on photo-micrography.

West Surrey.—The usual fortnightly meeting was held on the 25th ult., at St. Mark's Schools, Battersea Rise. Mr. Powell occupied the chair, and about thirty members were present. The usual business was quickly disposed of, and the Chairman called upon Mr. Geo. Davison for his "Morsels of General Information," gathered together for the benefit of those present. Mr. Davison first explained the procedure of pinhole photography, going fully into all the minute details connected therewith, explaining his remarks by blackboard

diagrams. He then passed round a number of his well-known pictures taken by means of a pinhole exposure, notably that of "The Homestead," well remembered in last year's Pall Mall Exhibition. Mr. Davison then explained a novel method of colouring photographs, showing some results obtained by the process. He next went into the matter of photo-etching on copper, fully explaining the process throughout, and showing plates etched by the process. The next meeting takes place on Wednesday, December 9th.

Wolverhampton.—The annual exhibition of photographs by members of this society was opened on the 20th ult., with a conversation in the society's rooms, the Blind Institute, Victoria Street, Wolverhampton. There was a large number of photographs displayed, the exhibition being an improvement on the previous ones both in number of exhibits, and in regard to their merit. The certificates were awarded as follows:—Class 1, large landscapes: no awards. Class 2, small landscapes: 1, J. Gale; 2, J. W. Evans. Class 3, seascapes: 1, J. W. Evans; 2, C. E. Jones. Class 4, architecture: 1, J. W. Evans; 2, E. A. White. Class 5, portraits or groups: 1, J. W. Evans; 2, W. R. German. Class 6, any subject: 1, J. Gale. Class 7, enlargements: 1, W. D. Welford; 2, J. Gale. Class 8, hand-camera work: 1,

W. D. Welford; 2, E. A. White. Class 9, lantern-slides: 1, J. Gale; 2, G. E. Brown. Class 10, lantern-slides illustrating any one subject, 1, J. Gale; 2, withheld. Class 11, historical buildings: 1, J. Gale; 2, withheld. Class 12, open to beginners: 1, M. Taylor; 2, A. C. Lloyd. The judges were Mr. E. Howard Jacques, and Mr. B. Karleese, Vice-Presidents of the Birmingham Photographic Society. Messrs. F. J. Gihson, S. R. Rhodes, and W. German were the exhibition committee, and Messrs. J. W. Evans and J. Gale the hon. secretaries. A concert was given during the evening, at which Mr. T. Ironmonger (Vice-President) occupied the chair. He stated that the society had made considerable progress during the past year, and that the photographs were all the work of amateurs and members of the society. He apologised for the absence of the President (Mr. Lyons Wright) owing to the death of a near relative, and for Mrs. Haddingham, who had arranged the concert and promised to sing, but who was prevented from being present owing to ill-health. The artists were Miss Kendrick, Miss Maude Smith, Miss Annie Law, Miss Gertrude Potts, Mr. A. Taylor, Mr. H. E. Perry, and Mr. Frank Dews. An exhibition of lantern-slides was also given.

To Correspondents.

All communications for these columns are to be addressed to **The Editor, "Amateur Photographer," 1, Creed Lane, Ludgate Hill, London, E.C.**

RULES.

1. Write clearly and distinctly on one side of the paper only.
2. Write each Query or Answer on a separate sheet of paper.
3. Write the name and address legibly on the back of each communication, and sign all Queries and Answers with name or *nom de plume*.
4. All matters for these columns MUST be received by TUESDAY MORNING'S POST.
5. The Editor does not undertake to answer questions by post.
6. In answering Queries, correspondents are requested to mention, in every instance, the number and full title of the query referred to.

QUERIES.

5254. **Kallitype.**—Will any reader who uses Kallitype No. 2 tell me how to get black tones? I can only get sepia. The Company say it is due to damp, but the paper is kept and printed in a warm room. Have tried permanganate of potash, as recommended in AMATEUR PHOTOGRAPHER, but the result is worse than with bichromate.—MELCHIOR.
5255. **Japan, Tour in.**—I am going for a tour in Japan. Will any one who has been in the tropics advise me as to packing of films before and after development, and also as to what developer will keep? The Platinotype Company's sulpho-pyrogallol is the most convenient. How long will it keep good after it is opened? Room is no object.—L. B.
5256. **Blisters.**—Can any reader tell me how I can stop my prints from blistering during toning and fixing, and what causes the blistering?—D. P.
5257. **Instantaneous Shutter.**—Can any reader give me full particulars as to how to make a simple instantaneous shutter for a $1\frac{1}{2}$ in. (diameter) R.R. lens?—D. P.
5258. **Platinotype Company's One Solution Intensifier.**—I have tried the above, and can get nothing but a change of colour of the negative image to a dirty muddy reddish-brown, the intensity being in no way increased. Can any kind friend enlighten me as to what is wrong?—CAPE COMORIN.
5259. **View-Flinder.**—Will any reader tell me how to use a double concave view-flinder, such as the "Aptus"? Where should it be placed on the camera, and where should it be observed from?—CAPE COMORIN.
5260. **Condenser.**—What size condenser is required to illuminate a half-plate negative for enlarging?—CAPE COMORIN.
5261. **Enlarging.**—As I am enlarging by daylight, should like to know what the exposure of Eastman's bromide paper would be as compared with an Ilford ordinary plate, taking a fairly dense negative. Any information on this subject will greatly oblige.—BROMIDE.
5262. **Stained Negatives.**—I have some negatives developed with pyro, which are badly stained yellow, I think from insufficient washing. Can any reader kindly advise what can be done to restore them? Will

a good soaking and washing, followed by a clearing in alum and citric acid, be sufficient?—J. H.

5263. **Size of Image.**—I thank "Pen" and Mr. Nash for formulae, but I think "Pen" has run off the line. I have verified Mr. Nash's formula by substituting in Dallmeyer's rule for enlargement and reduction, *i.e.*—

$$\left(\frac{o}{f} + 1\right) f = D,$$

which solution occurred to me after writing to the AMATEUR PHOTOGRAPHER.—B.

5264. **Developing.**—Has any reader had experience with developing several plates at once? If so, should like his opinions as to same, also full particulars.—W. H. E.

5265. **Reducing.**—What is the best book published on reducing negatives from half-plate to 4 by 3, for the purpose of making lantern slides?—W. H. E.

5266. **Bleaching Out.**—Is Mr. W. H. Sherman's formula for bleaching out and reducing prints a good formula? If so, I shall be glad of particulars; if not, shall be glad of formulae for this purpose.—TERMINI.

5267. **Groups.**—I am about to take some photographs of some young ladies, six in number, and shall be glad of full particulars of how best to place these much expected victims in four positions for the following groups, viz.: one group of six, one of five, one of four, and one of three, in each. I want them placed so as they will form an artistic as well as pretty picture, and I also want the photographs to do justice. If any readers of the AMATEUR PHOTOGRAPHER have ever had such an experience, I will thank them in anticipation for full particulars. The size of camera to be used is half-plate, and plates, Barnet ordinary.—W. H. E.

5268. **Printing Frame.**—Is there such a thing in the market at the present time as a printing stand for any size? If so, I shall be much obliged to the readers if they would supply me with particulars as to price, size, etc.—TERMINI.

5269. **Time for Development.**—What length of time do the following plates take to develop, viz., Ilford special rapid, extra-rapid, and Wratten and Wainwright's drop shutter and instantaneous?—LITHO.

5270. **Lantern Slide Making.**—I am desirous of making some lantern slides from half-plate negatives, and should be much obliged for any hints as to the best way of doing this.—J. C. H. L.

5271. **Postal Photographic Club.**—Does anyone know of a postal photographic club in course of construction, as I am very desirous of joining such a society?—G. H. HEALEY (address with Editor).

QUERIES UNANSWERED.

Nov. 27.—Nos. 5243, 5247, 5250.

ANSWERS.

5171. **Photo-Mechanical.**—The sensitiveness of Mawson's photo-mechanical plates is about half that of their lantern plates. It is hardly necessary, I suppose, to give instructions as to lighting, etc., but full front lighting is desirable. Give a rather short exposure; that is to say, do not over-expose. The easiest developer to work is Wilkinson's.

No. 1.	
Hydroquinone	80 gr.
Metabisulphite of potash	120 "
Bromide of potash	50 "
Water	20 oz.
No. 2.	
Caustic potash (pure stick)	200 gr.
Water	20 oz.

For use, mix in equal parts. The main object to be kept in view is clear lines. On the slightest sign of clogging pop the plate into the acid fixing bath. Density can easily be obtained by intensifying with Monckhoven's cyanide intensifier.—MEMNON.

5172. **Tintypes.**—Commercial ferrotype plates give good results. There is a small booklet by H. Snowden Ward, "The Practical Ferrotype," price 6d.—MEMNON.

5205. **Recovering Silver.**—Collect the black deposit, heat in the oven to dry, mix with half its weight of carbonate of soda or borax, and fuse in a crucible.—MEMNON.

5206. **Positive Image.**—The appearances described indicate under-exposure.—MEMNON.

5207. **Development.**—The presence of oxide of silver is not admissible, as it is insoluble in water, and would settle irregularly on the film, and cause irregular deposition of image where light had not acted. Nitrate of silver is extremely liable to cause stain and fog, but it certainly accelerates the appearance of the image.—MEMNON.

5208. **Collodion Work.**—Both imperfections may be caused by washing off the free nitrate of silver. The first may also be caused by a queer state of the silver bath; the second may be improved by silver intensification.—MEMNON.

5212. **Black Lines on a White Ground.**—If you refer to page 386, a process for this is given in answer to "Brodie," under "Editorial." Suitable paper can be obtained from Otto König, 27, Cross Street, Finsbury.—MEMNON.

5222. **Reducing Camera.**—It certainly is not worth while making a reducing camera when Walter Griffiths and Co. supply one without lens at 6s. 6d.—MEMNON.

5223. **Washing Gelatino-Chloride Prints.**—(Correction.) The answer I gave last week to above was previous to toning. I fear I made a mistake, and that "Thermi" wanted to know as to washing after toning. The instruction with Celerotype paper, is that one hour is sufficient if the water be changed frequently, which is best done by working two pans, and transferring the prints singly, from one to the other every ten minutes, then put in alum bath for two minutes, and give an after-rinse. I find this treatment quite sufficient.—A. LEWIS.

5225. **Photo-Colours.**—In answer to the latter part of this question, ground-glass lantern slides can be obtained from J. A. Forrest and Son, Mount Pleasant Liverpool, at 1s. 4d. per dozen, carriage extra.—R. GILL.

5225. **Photo-Colours.**—(1) Barnard's have given me every satisfaction; the address is 19, Berners Street, London, W. (2) Any photographic dealer or Barnard would supply.—MEMNON.

5227. **Ilford Formula.**—Neither of the answers published last week give "W. H. E." the information he requires; 119 parts of bromide of potassium represent 98 parts of bromide of ammonium. Therefore in the Barnet formula the 120 gr. bromide of ammonium must be replaced by 145 gr. bromide of potassium.—H. L. S. R.

5227. **Ilford Formula.**—A slip of the pen has made my answer to this query totally misleading. More, not less, of the potassium bromide should be used, as 119 parts are required to do the work of 98 parts of the am. bromide.—ISO.

5227. **Ilford Formula.**—As I fear "W. H. E." will not be much assisted by the two answers that have already appeared (as, being directly opposite to each other, it will be obviously impossible for him to follow both, and if he adopts either it will probably be less satisfactory than if he simply employed KBr for Am Br), I take the liberty of asking the Editor to print a third answer. Potassium bromide can be used instead of ammonium bromide, the only difference being the difference of equivalents (KBr = 119 and AmBr = 98); hence the proper amount of potassium bromide to replace 120 gr. ammonium bromide is found by the proportion 98 : 119 :: 120, which gives 151 gr., or about one-fourth more. If, therefore, "W. H. E." follows one of his advisers, and uses less, he would materially alter the formula, which might be detrimental. On the other hand, if he follows the other and doubles the amount, he would be using considerably more than the makers intend, which would probably do no harm

beyond slowing development. Ammonium bromide should not be used with a caustic alkali.—W. A. W.

5228. **Backgrounds.**—Send to Dyson, Shambles Lane, Huddersfield, for samples of his plain backgrounds, which are most suitable all round.—MEMNON.

5229. **Canvas for Enlargements.**—Artists' canvas may be used for enlarging on to, and can be obtained commercially, already sensitized, from Fry's or Morgan and Kidd's. To prepare it oneself it is necessary to first treat with dilute ammonia to free from grease, and then rub the surface down with tripoli and methylated spirit till quite even, and then wash, dry, and coat with emulsion.—MEMNON.

5230. **Methylated Spirit.**—The best method is to redistill it; the resin can, of course, be precipitated by the addition of water, and filtered out after shaking for a day with pumice powder, and the water abstracted from the spirit by the addition of anhydrous calcium chloride, quick lime, or carbonate of potash, and decanting or syphoning off the spirit from the watery solution of the salt.—MEMNON.

5237. **Dishes for Enlarging.**—A series of articles on economical dishes appeared in the early part of this year in the AMATEUR PHOTOGRAPHER.—MEMNON.

5239. **Exposing Plates Twice.**—As "Cape Comorin" does not seem to have got a satisfactory answer to his question, perhaps I may be allowed to mention that the "Godstone Lock" (Fallowfield's "Annual," 1890, page 90) is what he wants. It allows the shutter to be drawn for exposure, but, when it is closed again, locks it so that it cannot be again drawn without releasing the lock.—W. A. W.

5241. **Saturated Solutions.**—Your hypo is too strong. The proportions for negatives should be 1 to 5, for prints 1 to 10, whereas you are using 1 to 3 and 1 to 4½. The strength of hypo in saturated solution is for every 1½ oz. solution, 1 oz. hypo; for alum the solubility is 1 in 10 parts cold water. The proportion of your alum bath, therefore, will be right.—PEN.

5241. **Saturated Solutions.**—One part of alum is soluble in ten of water. The alum bath you use seems to contain 1 oz. alum to the pint. You might have it of double this strength for negatives. One part of hypo is soluble in 1½ of water. Your fixing solution would, therefore, seem to be 4 oz. hypo to 18 oz. of water for plates—which is about right—and the same amount of hypo to 24 oz. water for prints. The latter is stronger than usually recommended, but if you obtain good results stick to it. Mr. Wall advocates 4 oz. hypo to the pint for prints, and you may safely follow his advice.—IsO.

5242. **Negatives.**—This is through exposing the plate to the light before it is properly fixed.—W. H. ELLIS.

5244. **R.R. Lens.**—Certainly you can use one of the combinations alone, as a single lens, when the focal length will be approximately doubled and a larger plate covered. Remember that your stops will then have an intensity value double that of their value when used with the combined lenses, and prolong your exposures accordingly.—H. W. B. BRUNO.

5244. **R.R. Lens.**—You can use the lens as a single landscape one by unscrewing the back combination. The focal length will be nearly doubled, however, hence your camera will have to rack out twice the usual amount, and the ratio of the stops will be also doubled.—PEN.

5244. **R.R. Lens.**—It is quite possible to use one of the combinations as a single lens. The focal length will be doubled and the exposure quadrupled. You will require a long-extension camera.—IsO.

5245. **Lantern Plates.**—My experience is that Fry's plates, when developed with hydroquinone, produce the best results. Mawson's I consider also very good.—H. W. B. BRUNO.

5245. **Lantern Plates.**—I do not wish to boast, and call myself experienced in the art of lantern slide making, but I think I know a good article when I see it. You could not get a better lantern plate than the Fry, Mawson, or Edwards. I myself prefer the Fry, but of course tastes differ. If you want warm tones, by all means get the "Alpha."—ZEBRA.

5245. **Lantern Plates.**—For black tones nothing will beat Thomas's. If you want warm tones you must use a chloride plate, such as the Iford "Alpha" or Edwards's.—PEN.

5245. **Lantern Plates.**—I can recommend Fry's plates; but any of those mentioned on page 390 of this week's AMATEUR PHOTOGRAPHER are good.—IsO.

5246. **Intensifier.**—

Uranium nitrate	50 gr.
Distilled water	1 oz.

Soak the plate in the above for ten minutes, drain, and soak in a similar solution of ferricyanide of potassium till dense enough, then wash and dry.—PEN.

5246. **Intensifier.**—The following is from Wall's "Dictionary":—

(A)	
Uranium nitrate	50 gr.
Distilled water	1 oz.

(B)	
Ferricyanide of potash .. .	50 gr.
Distilled water	1 oz.

Soak the plate in A for ten minutes, drain, and transfer to B until dense enough; wash, and dry. If the negat. e has been allowed to dry it should be immersed in a bath of distilled water previous to intensification, as the action is thus rendered more even.—IsO.

5248. **Filtering Fixing and Toning Baths.**—Not unless the gold was deposited, and as in that case the

bath would be practically useless, no harm will come of your filtering.—PEN.

5249. **Framing.**—In my opinion, nothing equals the plain oak frame, with inside bevel and gold slip. Messrs. Morgan and Kidd make a speciality of this.—PEN.

5249. **Framing.**—The Cambridge frame in oak with gold slip suits this class of work admirably. If "Litho" lives in town, shall be pleased to give him further information.—IsO (address with Editor).

5249. **Framing.**—The most effective method of framing bromides is to mount them on plate-sunk mounts, and frame in plain oak frames, with narrow gold slip.—H. W. B. BRUNO.

5251. **Fry's Sulphokinone.**—Since this developer made its appearance in the market, I have never used any other. It is in every way a most reliable developer, works well with any brand of plate, and last, but not least, is clean. I have developed three half-plates in succession with one lot of solution, and have never found it change colour more than a very faint yellow, almost unnoticeable. Now for a few hints: Keep the bottles tightly corked, always shake each bottle before mixing, as there is a slight sediment. Always dilute the developer a little (unless for instantaneous work), as it is far too strong, notwithstanding the makers say "use equal quantities of each," and lastly I should advise you not to use the old solution added to the new, as I am quite confident it does not bring up the image like the freshly mixed. The following is the way I mix mine, and this quantity is just sufficient to develop a half-plate:—Take of "A" one egg-cup full, "B" one egg-cup full, and dilute with one egg-cup full of water. I am sure if this developer was only known a little more, it would be in the hands of everyone. I may safely add, "Well done, Fry!"—ZEBRA.

5252. **Toning Bath.**—Mr. Wall says this bath gives purple-black tones. It is a matter of individual taste as to whether they may be considered of a pleasant nature. Try the bath and judge for yourself. You will find that you must have a good negative to secure good tones.—IsO.

5253. **Hinges to Dark Slides.**—It is the tannic acid used in the tannin that causes the mischief; it is always dangerous to leave plates in the slides any length of time where leather is used. The only remedy is to have them replaced by a material now being used by the best makers. There are only a few places to get the right stuff at. If C. Osmond likes to write me I will give him all particulars. Address with Editor.—CAMERA.

5253. **Leather Hinges to Dark Slides.**—Are you sure that it is the leather which affects your plates? Are you sure that the light does not creep in where the hinges are? Unless the leather touches the plate I fail to see how it can affect them. You might (if you think it worth your while) test this light question, by putting in two plates and keeping the dark slides in "protectors," also keeping the focussing cloth well over slide when inserting in camera; in fact, being very careful that no light whatever gets to your slides. If this fails to overcome the difficulty, I cannot advise you further.—ZEBRA.

5253. **Leather Hinges to Dark Slides.**—It is difficult to say cause of fog. It may be something in the leather or the blacking. Take the slides to a reliable maker, tell him the fault, and have the hinges replaced by new ones.—IsO.

EDITORIAL.

SPECIAL NOTICE.—We are very pleased to find that replies in this column are so much appreciated, but we should be very grateful if those requiring advice would send their letters to us BEFORE TUESDAY MORNING'S post if possible. The time occupied in replying in this column is very considerable, and owing to the often late receipt of letters, many matters have to be left over each week. This we much regret.—ED: AM: PHOT:

GEO. PRIE.—The process used by itinerant photographers to produce photographs on tin, or tintypes, or ferrotypes, as they are called, is briefly as follows: Thin sheet iron, coated with a black or chocolate varnish, is coated with iodised collodion, sensitised by dipping into a nitrate of silver bath, exposed whilst wet, and developed with an acid ferrous sulphate solution. The silver is deposited in a white condition, and the black varnish showing through forms the shadows; the picture is then fixed in cyanide of potassium, washed, dried, varnished, and mounted. The picture is, of course, reversed as regards right and left. There is a simple little manual called "The Practical Ferrotype," by H. Snowden Ward, which our publishers would send you post free for 7d. You can also obtain from Fallowfield, Charing Cross Road, W., commercial dry ferrotype plates, which can be developed with a one-solution developer.

C. J. E.—Your description of the method of marking lantern slides is correct, and is that which is usually adopted. Always at your service.

B. W. G.—Your print is good, both technically and artistically, but we should strongly advise you to abandon the use of pink paper and use white, which is far more pleasing.

J. A. HAREISON.—Your letter to hand. We do not agree with you as to the cause of the stains. It may be, of course, a purely local impurity in the card, but as all the other mounted prints are perfect, the cause

must be in the mounting medium or, far more likely, in the print. We should say that these prints were not perfectly washed or not perfectly fixed; that is, all the hyposulphite of silver was not eliminated. We will test the scraps you send, and let you have report in our next issue.

A. E. D.—The action of nitrate of lead is said to be to keep the whites of the pictures pure. The proportion of lead salt is right. It should always be half the gold. If you will use the bath recommended by the Iford Company, and print rather deeper, you will have no difficulty in obtaining purple tones. If you want to use a combined toning and fixing bath, it is necessary to saturate the bath with chloride of silver, either by adding scraps of fresh paper, or else chloride of silver. This is the cause of your print remaining red in the combined bath.

B.—You are perfectly correct in your surmise as to the meaning of our reply of last week. We should like to see the prints. Sulphite and metabisulphite are always used in the solution of reducing agent to prevent oxidation, and your idea of keeping the same in a separate solution would be useless in this respect.

C. W. CHITTY.—Wash your prints well, then immerse in:

Chrome alum	1 part.
Water	100 parts.

to which has been added sufficient solution of ammonia to cause a slight permanent cloudiness after shaking, then filter. Wash well and tone in:

Chloride of gold	6 gr.
Tungstate or acetate of soda	60 "
Ammonium sulphocyanide	100 "
Hyposulphite of soda	2 oz.
Hot distilled water, to make	10 "

add:

Salt	10 gr.
Nitrate of silver	10 "
Water	1 oz.

As soon as the prints have reached the desired colour, wash well, dry, and mount.

H. E. RUSE.—We should think the fracture of the lens would cause both imperfect definition and slowness. Why not have a new lens fitted to it?

CHAS. M. DORMAN.—We may possibly use your stock-bottle idea, but the description hardly.

LEWIS.—You can obtain thin black waterproof paper, which should be pasted on the one non-waterproof side, squeezed into contact with the print on the glass, the whole allowed to dry, and then strip and mount with starch; paste as usual. Or you can use the following mountant:—

Gelatine (Nelson's amber)	2 oz.
Water	2 "
Methylated spirit	4 "
Glycerine	½ "

Soak the gelatine in water for six hours, add the glycerine, and melt by placing the pot or jar in hot water, then add the spirit in very small quantities, stirring continuously. Blisters periodically occur; there seem to be epidemics of them, from apparently no explainable cause. Keep your solutions all at the same temperature, always keep your prints face downwards, add one part of methylated spirit to your fixing bath, or first washing water after. Always please to help you. We shall have a flower competition next year.

M. P.—It is difficult to state exactly the cause with out seeing your patches, but they may be caused by accidentally touching the paper with your fingers. Will you let us see a print or two, showing defects? You can obtain the hydrochlorate of paranidophenol from Messrs. R. W. Grief and Co., 29, Mining Lane, E.C., but we should advise you to try their Rodinal developer, noticed by us this week. There are no patent rights in connection with paranidophenol.

T. T. S.—Letter by post.
A. E. SPURRELL.—We should advise you to have a Loman's Reflex fitted with roll-holder; this is devised for a 5 in. focus lens.

JAMES THOMAS.—Letter by post.
GEO. SLASOR.—Any lens less than 7 in. focus would be termed a wide-angle for a half-plate. Will not Mr. Wall's article on "Photographic Procedure" help you? Mallet is old, but reliable maker.

W. H. WHARTON.—Luminous paint suits a light which acts very strongly on dry plates, and although the colour of the light can be altered by the addition of certain salts, it is never safe for photographic work. We do not know where the luminous paint can be had, but will try and find out.

W. H. ELLIS.—(1) Just about right as regards density, though the sky might have been a little clearer. (2) Far too dense. We should be glad if you would put your experience in the form of a short paper or letter, and we will insert. Write on one side of paper, only please. Many thanks for offer of prints, which we might see our way to reproduce. The slides are quite equal to our competition standard.

JOHN BROOKS.—The patches are due to using too much lubricant.

HIBERNICUS.—(1) Although you cannot see them we should most decidedly say you have a crop of silver stains. Toning has been carried just a shade too far. (2) Iodide of silver is not a "sure" preventative of halation, but plates coated with a bromo-iodide emulsion show this defect less markedly than others. You might choose either Fry's, Kingston, Edwards' landscape or Wratten's ordinary. (3) Your best plan would be to go to a coppersmith and give him a sketch and let him make one for you, and then coat with

silver yourself, by using your old fixing baths. (4) We are a little uncertain of this, but believe the ratio is 1 Morgan and Kidd, and 3-4ths for Ilford.

ALF. RUSSELL.—The pyro solution should be of a very pale brown or straw colour. It is a good developer and has had a famous name amongst old experts.

MAZA.—We cannot trace any previous letter from you, at present, but we will have another good search. It is claimed for pyro and ammonia that it gives better printing negatives than any other developer. You should never judge a developer by the negatives, but by the prints from the same. Some workers obtain the best results with ammonia and some with potash.

R. T. FRETWELL.—Your print to hand. The best way to keep celluloid negatives is to pack them singly in envelopes, and keep in book-like boxes.

CAMERIST.—Pleased to welcome you again, though we thought we had settled you for good and all. You must give us a little grace, as we have an extra press of work on. Could you come down to the office one day and practically settle the question?

PHILIP THOMAS.—We are now closing all dates for the 1891 Prize Slides, and will advise you by letter if they can come to Cheltenham the day named. We can but accept the other suggestion contained in your letter.

THOMAS RASTALL.—You shall hear from us in a post or two about date for the 1891 Prize Slides.

W. TOWNEND.—We shall try and meet your wishes about the 1891 Prize Slides.

JOHN E. HURST.—Messrs. Taylor, Taylor, and Hobson's works are at Slate Street, Leicester, and their London offices at 6, Southampton Street, High Holborn, W.C.

W. E. CROWTHER.—Both items are used this week.

GREVILLE H. PALMER.—Personally we hold strong views upon the subject, but feel that we have no right to comment upon the matter in the columns of this journal. We will write to you at some future date, and may possibly be able to aid your views.

G. H. HEALEY.—Your note is inserted in our Query column.

J. D.—For particulars as to Woodbury-gravure, the process by which the illustrations in "Photographs of the Year" are reproduced, we must refer you to the Woodbury Company, 6, Great New Street, Fleet Street, London, E.C.

A. B. KNIGHT.—The awards are given this week.

AMMONIA.—It is usual to include photographs taken during one holiday.

T. E. BROWN.—The list for 1891 Prize Slides is practically closed up to the middle of April next.

C. HETHTON LEWIS.—The Association has been dissolved, we believe. Possibly you might like to communicate with the photographic section of the Chamber of Commerce, St. Botolph's House, E.C.

HARRY HOLT.—Yes. Certificates will be prepared next week.

F. W. PLEWS.—Will look the matter up and write you.

W. AND S. INGHAM.—Shall write you definitely in a post or two.

EDWARD J. STEER (Capetown).—Thanks for *Cape Times*. We refer to your doings in another column, and will write you about sending out AMATEUR PHOTOGRAPHER Prize Slides, etc.

Sale and Exchange.

RULES.

CHARGE.—Twelve words or less for Fourpence. Every additional three words, one penny. The name and address of the sender must be paid for.

(A single figure, or group of figures undivided by letter, space, stop, or words, counts as one word; compound words count as two words.)

ADDRESS.—All advertisements (which can be received up to Wednesday morning, 9 a.m.) and other communications having reference to the "Sale and

Exchange" column, must be addressed "Sale and Exchange, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C."

CARRIAGE must be paid on all apparatus sent for report, and they will be returned carriage forward.

Backgrounds.—Pair of backgrounds, interior and exterior, high-class, 8 ft. by 8 ft., on rollers, complete, not soiled; 50s. the pair; worth double.—3, Waverhill Road, Handsworth, Staffs.

Cameras, Lenses, etc.—Lancaster's combination Multum-in-Parvo enlarging camera and lens; cost 50s.; price 35s.—Hunt, 5, Queen's Crescent, Glasgow. 5 by 4 camera, lens, stand; cost 50s.; what offers?—Cuthbertson, 54, Queen Street, Newton Abbot.

Enlarging Apparatus, etc.—Enlarging bellows camera (mahogany), enlarge to 2½ by 10½, used with ordinary camera, can be used for lantern slides; 25s.; approval.—Laxton, West End House, Mortlake, S.W.

Hand-Cameras, etc.—Automatic hand-camera (Houghton's), new, in perfect order, with waterproof canvas bag, carries one dozen quarter-plates, R.R. lens, fitted with Thornton-Pickard special shutter, working up to 1:200th; cost £7 18s. 6d.; what offers?—Hartness, care of Defaye, Chemist, Jersey.

Talmer hand-camera, quite new; cost 70s.; price 57s. 6d.—Sharland, Santos Road, Wandsworth, S.W.

Kodak, No. 2, cost £7 10s., in perfect order, with film for 100 exposures, in travelling case.—Tresilian, 21, Lower Sackville Street, Dublin.

Lancaster's Omnigraph best leather, good as new; 19s.; carriage free.—Storey, Railway Station, Keswick.

Lenses, etc.—Lancaster's quarter-plate Instantograph lens and shutter; cost 25s.; will take 15s., or any reasonable offer; in thorough good condition.—F. W. F., 92, Malmesbury Road, Bow, E.

Exchange 10 by 8 landscape lens for quarter-plate R. rectilinear lens.—Reeves, 24, Harvard Road, Lewisham.

Stereoscopic Company's 5 by 4 twin lens, Artist hand-camera, with six slides, solid leather case, quite new; £13; cost £19.—No. 233, AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.

Ross' No. 6 portable symmetrical lens, quite new; 80s.—A. Parkes, Ardilea, Dundrum, co. Dublin.

For sale, quarter-plate doublet lens; 4s. 6d.—Roberts, 17, Chester Street, Mold.

Quarter-plate portrait lens, by good maker, cheap for cash; or exchange Newman's shutter, whole-plate, and Houghton's changing tent.—Pratt, East Bridgford, Notts.

Dallmeyer's half-plate R.R. lens, only £3 15s., list price £5 10s., guaranteed perfect; set of 50 Wilson's lantern slides, "Modern Babylon," with reading, equal to new, 40s.—Jackson, 71, Oxford Street, Manchester.

Roll-Holder.—Half-plate Warnerke roll-holder, new condition (Shew and Co., makers); 20s.; or exchange quarter Eastman's roll-holder.—A. L. Spiller, Hillside, Hampstead Hill Gardens, London.

Sets.—Lancaster's half-plate Instantograph square bellows camera, early pattern, but in excellent order, new R.R. lens, with Waterhouse stops, one mahogany double slide, three Tylar's metal slides, with adapting frame, and two-fold mahogany tripod; also two half-plate mahogany printing frames, three porcelain and three ebonite dishes; the lot £3.—A. Naylor, Aston Hall, Derby.

7½ by 5 Rouch's patent portable camera, and three dark-slides, brass-bound, Wray lens, and Guerry double flap shutter, the whole in flat velvet-lined case, lock and key, good as new; price 10 guineas.—No. 234, AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.

Underwood's quarter-plate Compactum set, as new, bargain, 12s.; 2½ in. pneumatic drop shutter, 4s.—14, George Street, Stroud, Glos.

Lancaster's whole-plate Instantograph camera, two brass-bound slides, R.R. lens, and tripod, £5; half-plate International, complete, £4; half-plate Middlemiss modern camera, three double backs, £3 10s.;

Lerebours whole-plate portrait lens, £2 10s.—Biddl 97, Medlock Street, Manchester.

Shutter.—Thornton-Pickard time shutter, new; cost 18s. 6d.; exchange for interchangeable jet, or really good blow-through jet.—Mitchell, Dentist, Dewsbury.

Sundries.—Shew's Eclipse hand-camera, quarter-plate, three slides, finder, very little used, £4 16s.; 7 in. Optimus condenser, new, £2; 3-wick refugent lamp, 10s.—Orton, Lynda'e, Lansdown Grove, Neasden.

Houghton's £6 6s. developing sink, bottles, dishes, etc., to be sold, a bargain, by gentleman going to India.—May be seen any day between 9 and 7 at Adams and Co., 26, Charing Cross Road, W.C.

Last ten years' "British Journal Almanacks" and "Year Books," 6d. each; "Pictorial Effect," 1s.; "Enamelling and Retouching," 1s.; "International Annuals," 1s. each; "Instruction in Photography" (Abney), 1s. 6d.; "Photographers' Indispensable Handbook," 1s.; "Photographic Studios of Europe," 9d.; odd numbers "Photographic Societies' Reporter," 1d. each; "Photography" (Wheeler's), 1s. 6d.; and other books.—Cartledge, Glossop Road, Sheffield.

A 12 ft. oxygen cylinder, with patent regulator, also a Perken and Rayment's combination jet; at less than half original cost; price £3 5s.; guaranteed perfect; deposit with Editor.—Apply, Rutland, Tunbridge Wells, Kent.

Lantern sheet, 12 ft. by 11 ft.; price 12s. 6d.; great bargain; deposit with Editor.—Apply, Putland, Tunbridge Wells, Kent.

Magnificent solo violin for disposal, very bright and mellow tone, and in perfect playing order, also fully-baize-lined lock-up case and silver-mounted bow; price 15s. 6d.; advertiser will give in free a tuning fork, resin, mutes, and several 4s. and 5s. pieces of music; genuine offer, and sent on approval; kindly write for particulars.—F., Clarendon, 35, Christchurch Street, Ipswich.

WANTED.

Cameras, etc.—Half-plate camera only, with double backs; approval.—State terms to B., 4, Clarendon Road, Lewisham, S.E.

Quarter-plate camera, etc., good make; state full particulars and lowest cash price.—Webb, 8, Park Road, Tring, Aylesbury.

Whole or half-plate camera, three slides, 4 fold stand, good condition, cheap.—Brown, Photographic Association, Arbroath.

Cameras, Lenses, etc.—Half-plate camera, with R.R. lens, in exchange for good violin, bow, and case.—S. P. Twemlow, Wesley Cottage, Sandbach.

Dark-Slides.—Two or three double slides for Lancaster's half-plate Instantograph; also Thornton-Pickard time and instantaneous shutter.—P., 43, Mount Pleasant, Reading.

Hand-Cameras, etc.—Quarter hand-camera, complete, Swinden and Bap's or good make.—Particulars, price, to Charles, 197, Bellevue Road, Leeds.

Shew's, or other equally compact pocket camera and slides.—Alex. Moore, Newtownards.

Lanterns.—A Hume's Cantilever enlarging lantern, with 8½ in. condenser, perfect.—Martin, 100, Rosalind Street, Liverpool.

Lenses, etc.—Lens, half or full plate, by Ross or Lancaster.—Miss Thomas, Uzmaston, Haverfordwest.

Rapid rectilinear lens, Optimus preferred, for quarter-plate.—Walter Jones, Chelmsford.

Negatives.—Good negatives, English and foreign places of interest, loan or purchase.—William Randall, Brampton, Chesterfield.

Set.—Good half-plate set, by Lancaster, or other good maker; state full particulars.—31, Buckingham Road, Aylesbury.

Tripod.—Whole-plate tripod, must be very rigid and strong.—State lowest price and maker to Russell, Grays, Essex.

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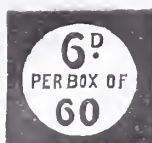
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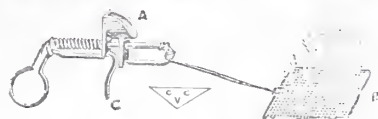


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NOVEMBER, 1891. NOW READY.

CONTENTS:

FRONTISPIECE—Harvesting, "As Evening Shadows Fall," ALFRED J. JEFFREYS.

Editorial Summary—Publications of the Month—Apparatus, Novelties, etc.

Monthly Photographic Competition, No. 29—"Harvesting"—Illustrations: "The Last for the Miller," by HERBERT C. BENTLEY—"Reapers at Dinner," by W. COOPER, JUN.—"His Daily Bread," by ERNEST BECK.

Articles on the Intensification and Reduction of Gelatine Negatives. ROLAND WHIRING.—Hints to Beginners. S. FRANCIS CLARKE, L.D.S.—The Making and Working-up of Transparencies. GEO. THOMPSON—Sheffield Photographic Society: Annual Report—On Halation. H. G. HAMMOND SPENCER, C.E.

Summary of Societies' Meetings—Directory of Official Announcements.

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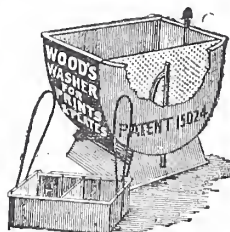
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No. 375. Vol. XIV.]

FRIDAY, DECEMBER 11, 1891.

[PRICE TWOPENCE.]

OUR VIEWS.

"To hold as 'twere the mirror up to nature."—Shakespeare.

OUR VIEWS.—Seascope and Landscape Monthly Competition—AMATEUR PHOTOGRAPHER "Monday Evenings"—Bogus Advertisements—Club for Accrington—Ikoston Explosion Fund—A Photographic Institution for Edinburgh—A Photographic Institution for Great Britain—University Extension Lectures—"Evening Work"—Our Illustration—Inland Scenery Competition—Leeds Exhibition—Photographing Music Scores.

LEADER.—Sensitised Silk.

ILLUSTRATION.—Temple Bar, as Re-erected, by W. G. Bennett.

LETTERS TO THE EDITOR.—The Ikoston Explosion (W. H. Haines, Shipley Bethell, E. Benest)—The late Charles William Scheele (Thos. S. Mayne)—Alpha and Bromide Paper (John A. Hodges)—Exhibition Rules (Fair Play)—A Plea for Common Sense (A Landscape Painter)—A Warning (Jonatian Fallowfield)—Lenses (M. E. Debenham).

ARTICLES.—Photographic Procedure (Wall)—The Lantern, and How to Use It (C. Goodwin Norton)—Composition, and Light and Shade (Robinson)—A National Photographic Institution Required (Lyddell Sawyer).

EXHIBITIONS.—International Photographic Exhibition at Leeds—Tunbridge Wells Exhibitions.—From the Edinburgh Centre.

NOTES.—From the Edinburgh Centre.

SOCIETIES' MEETINGS.—Bolton—Bristol Camera Society—Brixton and Clapham—Camera Club—Cardiff—Coventry and Midland—Croydon—Croydon Micro.—Devon and Cornwall—Finsbury—Holborn—Lewes—Lewisham—Leytonstone—Lowestoft—Midland—North Surrey—North London—Oxford—Richmond—Rotherham—Sheffield—Southsea—South Hornsey—Stockport—Sutton—West Kent.

REVIEWS.—"British Journal Photographic Almanac 1892"—"The Studio, an I What to Do in it"—"Praktisches Taschenbuch der Photographie"—"Die Elemente der Photographischen Optik."

APPARATUS.—Blissett's Magnesium Hand Lamp—Rodinal, a New Developer—Stanforth's Patent Jet Holder and Regulator.

EDITORIAL DEPARTMENT.—All Literary Contributions, Queries and Answers, Photographs for Competition or Criticism, Books or apparatus for Notice or Review are to be addressed to the EDITOR, AMATEUR PHOTOGRAPHER, 1, CREED LANE, LUDGATE HILL, LONDON, E.C. (All Communications should reach the Editor on Tuesday.)

TERMS OF SUBSCRIPTION—

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TRADE ADVERTISEMENTS are received up to Tuesday mornings.

PUBLISHING DEPARTMENT.—All letters containing Subscriptions, Orders Remittances, SALE and EXCHANGE Advertisements, or other business matters for the AMATEUR PHOTOGRAPHER are to be addressed to the Publishers, HAZELL, WATSON, and VINEY, LD., 1, CREED LANE, LUDGATE HILL, LONDON, E.C. (SALE and EXCHANGE Advertisements, at the charge of Three Words for One Penny, can be received as late as WEDNESDAY MORNING.)

"Amateur Photographer" "Holidays with the Camera" Competition (Second Year)—Prizes: Gold, Silver, and Bronze Medals, and Certificates; with special prizes of "Niepce" or progressive medals for past prize-winners. In all, twelve prizes will be placed at the disposal of the judges.

SUBJECTS.—All photographs are eligible that have been taken during the "Holidays," but must be landscape or sea pieces, with or without figures, views of town, photographs of cathedrals, churches, public buildings, etc., but not portraiture, figure study, or pictures which could be classed as "Photographs at Home."

DATE.—All photographs must be received on or before the 31st of December, 1891.

RULES, CONDITIONS, and ENTRY FORMS will be forwarded on receipt of stamped addressed envelope. The application should be addressed, "HOLIDAYS WITH THE CAMERA," Editor, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C.

"Amateur Photographer" Monthly Lantern Slide Competition, No. 8—"FIGURE STUDIES and HUMOROUS PICTURES." Latest day, DECEMBER 17TH.—Two Slides to be sent in. Entry Forms, etc., on receipt of stamped envelope. Address: Editor, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C.

Members of the Editing Staff are "At Home" on Monday afternoons from Two till Five o'clock, and they will gladly give advice upon all photographic matters.

OWING to the very heavy number of competitive prints sent to the Monthly Competition, No. 31, "Seascope and River Scenery," we have not been able to make the awards this week; they will be published in our next number.

The programme of future Monthly Competitions will be announced in an early number. The photographs will in future be criticised and prize photographs, etc., reproduced in a special monthly supplement of the AMATEUR PHOTOGRAPHER; the first supplement will be published with the issue of January the 8th. It has been thought desirable to discontinue the publication of the *Photographic Reporter* with the current number, and much of the work done in it will be incorporated in this journal.

The AMATEUR PHOTOGRAPHER "Monday Evenings" will be postponed for the present. It has been found quite impossible to hold an exhibition of hand-cameras in the limited space at our disposal, so we are reluctantly compelled to give up the idea. The course was completed by a very able lecture on "The Flashlight," delivered by Dr. J. J. Acworth, F.I.C., F.C.S., etc., to a large and appreciative audience. It may be news to some of our readers that Dr. Acworth, in conjunction with another gentleman, has built at Cricklewood a large works for the manufacture of photographic dry-plates and the preparation of sensitised papers for photographic printing. It is not expected that the firm, who trade under the name of "The Imperial Dry-Plate Company, Limited," will be in a position to deliver plates much before February. Dr. Acworth held the position of scientific adviser to a very large manufacturer of dry-plates, and is, perhaps, one of the first practical photographic chemists in this country.

On the 23rd of November we received the enclosed letter from Mr. R. Prince, Curator of the Birmingham Exchange:—

"In your last Thursday's issue F. W., 22, Lupin Street, Birmingham, advertises 'Facile hand-camera for 20s., first P.O.O. takes it.' I have made careful enquiry at the number given, and find that F. W. (real name not known) is trying to rent a small workshop at that address, and that several letters apparently containing remittances have been delivered. The whole business has such a peculiar look that I think it my duty to write you on the matter."

We at once put ourselves into communication with the detective department in Birmingham, and now find that all

Mr. Prince says of the man is true. Mr. Fallowfield, whose Facile hand-camera was the subject of the advertisement, writes us a letter upon the subject, which is published in another column. We exercise as much control as possible over the Sale and Exchange columns, and will at once expose anyone who uses it for dishonest purposes. At the same time we would remind our readers that they can practically protect themselves by never purchasing from a stranger except through our deposit system.

We understand that efforts are being made to start a Camera Club at Accrington. Mr. John A. Hanson, of 11, Claret Street, Accrington, will be pleased to hear from any one who will support the movement.

MR. W. H. HAINES, of 27, Newgate Street, has sent us 5s. on behalf of the fund now being raised for sufferers in the recent explosion at Ilkeston. Perhaps others of our subscribers will send us a small donation. We shall gladly forward any such sums to the treasurer of the fund.

A MOST interesting note comes to us from Edinburgh this week. On the motion of Dr. Drinkwater it seems possible that the Edinburgh Photographic Society intend to make an effort to get a "home" of their own. It is to be hoped that they will not follow the example of the "parent" society, and "sky" the whole business. There is and has been much dissatisfaction expressed in photographic circles as to the want of life and energy in the photographic society. Our correspondent writes at some length upon the desirability of having a Photographic Institution in Edinburgh worthy of Scotland (he's a Scotchman, you ken), and many of his suggestions are admirable. It remains to be seen what will be done on the recommendation of Dr. Drinkwater. There are in and around Edinburgh many amateur photographers, and we can see no reason why such a scheme, slightly modified, should not be carried out.

MR. LYDDELL SAWYER sends us a communication upon the present position of the Photographic Society of Great Britain, and speaks in no uncertain sound as to the present and future position of that society. We have always looked with great favour upon the absorption by the Camera Club of the Photographic Society. At the present time a very large proportion of the members of the Society are members also of the Club. It is very questionable whether the Photographic Society will ever recover its prestige. It certainly has not grown with the times in which we live. Either it must rouse itself and awake out of sleep, or else join the ranks of the majority.

We have long since learnt the lesson not to interfere in the internal economy of societies of a private nature, but these two institutions have their work to do on behalf of the photography of the world. The older society have no energy, and the Camera Club appear to have too much for their strength. They have at least taken a step to increase the sinews of war by raising the rates of members' subscriptions. Whether this has been done wisely it is not for us to say, but we cannot help thinking that so far as photography goes the former subscriptions were ample. All clubs have difficulties, and as a rule lose money when they touch eating and drinking, and however convenient it may be for the few to combine photographic labour with refreshment, we question very much whether the many appreciate the combination.

The question, however, of centering all photographic

interests is one we have very close at heart, and we cannot see why the child should not in this take care of the parent, who, from want of energy and internal dissension, appears to us to be in a very critical condition. Perhaps some of our readers will, after reading Mr. Sawyer's communication, diagnose the case.

A MOST interesting course of lectures in connection with "The University Extension Scheme" has just been concluded at Sutton, Surrey, by Mr. Arnold Mitchell, A.R.I.B.A., illustrated by a magnificent set of photographic lantern views depicting the progressive development of English architecture from early Norman times to the sixteenth century. Many of the examples shown were taken under circumstances of extreme difficulty, especially in the varied details of vault groinings, the operator having to place himself in most awkward positions to secure the desired effect, but the results were admirable and well calculated to prove that the value of photography as an aid to instruction in technical architecture cannot be over-estimated.

THE popularity of Mr. T. C. Hepworth, F.C.S., as a writer upon photographic subjects, will be acknowledged by all students, and it is gratifying to learn that the two books published for him by Messrs. Hazell, Watson, and Viney, Ltd., "Evening Work," and "The Book of the Lantern," have been translated into French, and are now having a large sale in France.

OUR illustration for this week is one which will be of considerable interest to our readers, especially those who saw Temple Bar in its original position. The photograph of which the illustration is a reproduction is a very fine half-plate print, on Ilford printing-out paper given a matt surface, of Temple Bar, which has been re-erected at Waltham Cross. We must congratulate Mr. W. G. Bennett, of Waltham Abbey, who sent us the print, on securing a picture so artistically and technically good.

A CORRESPONDENT in New Brunswick writes:—"I am also pleased to see by your paper that the print I sent to your 'Inland Scenery' Competition has been considered worthy of reproduction. It is very gratifying to me that my first entry should stand so high among so many competitors, and I trust that as I gain in experience and skill I may rise till I at last reach the *spes ultima* of a silver medal."

THE International Photographic Exhibition which was opened this week at the Municipal Art Gallery in Leeds, is commented upon in another column. The *Leeds Mercury* says:—"We can scarcely imagine—we certainly cannot estimate—the extent of the enrichment which this charming art, photography, has brought to our family and social life, both as a beautifier and an educator, and again, as furnishing a museum of home memories for our families, from the humblest to the highest in the land. More and more, too, it is becoming the trusted and even the indispensable handmaid of all our sciences and all our industries. Great thanks, therefore, are due to Colonel T. Walter Harding and his active colleagues upon the Art Gallery Committee, including the representatives of the Leeds Photographic Society, for the admirable zeal with which they have invited and brought together the treasures of this art which are to be exhibited in Leeds for the next four or five weeks. The exhibits embrace every class of illustration and every variety of the art; their number is

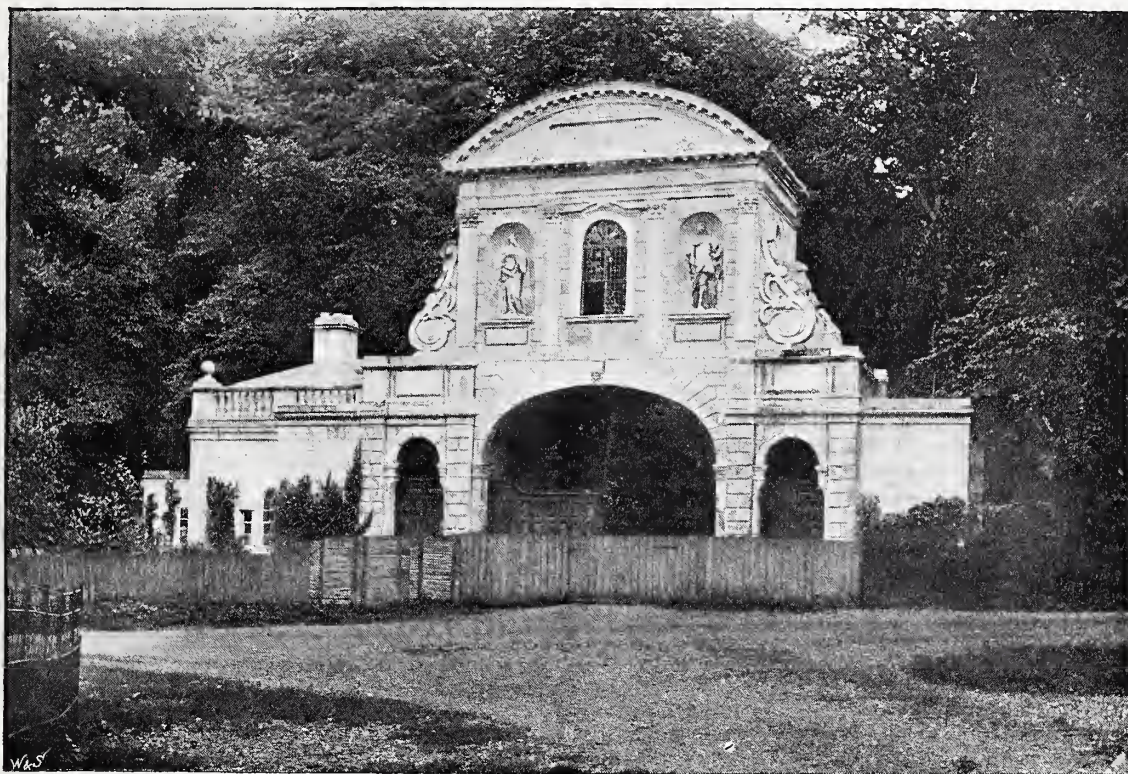
such as to cover the walls of four of the large rooms of the Gallery. Evening exhibitions from the best selected transparencies are to be given two or three times a week, and altogether it gives great promise of both pleasure and advantage."



We are very glad that the scheme proposed by Sir George Grove for photographing famous autograph scores has actually assumed shape. Allusion has been more than once made to the subject in these columns, and it is therefore with all the more gratification that we notice that Messrs. Breitkopf and Co., of Berlin, have undertaken to photograph the overtures, concerti, and symphonies of

prints, and then suggest one or two methods of making pretty knick-knacks. Practically we may consider sensitised silk as plain or matt-surface paper, and, like the latter, the silk—we refer here to that introduced by Messrs. Schwarz and Co.—bears on the wrong or non-sensitised side a pencil mark. A piece of silk cut to the desired size is placed in contact with a negative in the printing-frame in the usual way, and exposed to light. Great care has to be exercised, however, in printing that the silk is not stretched or displaced in any way. Whilst examining the progress of printing, we have found, indeed, that this stretching is extremely liable to occur; but where two or three prints have to be obtained from one negative, we strongly recommend the

ILLUSTRATION FOR THE WEEK.



TEMPLE BAR, AS RE-ERECTED.

PHOTOGRAPHED BY W. G. BENNETT.

Beethoven. It is intended, should the scheme be cordially supported, to follow this volume with subsequent photographs of the autograph scores of other composers. Dr. A. C. Mackenzie and Sir George Grove deserve congratulations on this actual commencement of an interesting endeavour.



SENSITISED SILK.

For many years photographers, both amateur and professional, have been content with making prints on paper, although spasmodically photography has been half-heartedly applied to the more durable textile fabrics. The introduction of silk sensitised with a silver salt, so that prints may be obtained by a printing-out process, gives amateurs yet another method of making souvenirs and presents for their friends, and facilitates the preparation of artistic Christmas, New Year, and birthday cards.

We will first consider the technical details of making the

use of Barry's printing-out exposure meter; by the use of this handy little device, it is quite unnecessary to examine more than the first print, as, having once established, by the aid of the meter, the necessary duration of insolation, examination of the strip of paper gives us in subsequent prints the desired information. Having printed sufficiently—and we may here remark that printing must be carried slightly further than with ordinary albumenised paper—we are ready for the subsequent operations of toning, etc.

It is necessary as usual to free the silk from any unacted upon nitrate of silver, and although it is recommended by the makers to wash the silk in water, we have found that this has a tendency to give a yellow tinge to the fibres, which is detrimental to the success of the work in some cases. Washing the silk in a fairly strong solution of common salt, however, instantly converts the free nitrate into chloride of silver, and entirely obviates any staining. Plain water may be used subsequently to the salt water

to remove any free chloride which, although not actually prejudicial, tends to render the toning abnormally long.

The makers recommend the use of the following bath:—

Water	..	..	..	16 oz.
Chloride of gold	..	..	..	1 gr.
Bicarbonate of potash	..	..	..	10 „

Prepare several hours previous to use. This bath, with the usual care, keeps well. It is not, however, necessary to confine oneself to the use of this bath, as we have found that any ordinary toning bath will give equally fine results, *provided it is used about half the ordinary strength* or has been partially exhausted by the previous toning of albumen prints. The secret of good results with this silk is to treat it as plain paper. We have obtained very fine results by using the combined gold and uranium bath, and also by using Lyonel Clark's platinum toning bath, or even with Blanchard's special platinum toning solutions.

After toning, it is advisable to place the prints in salt and water, and then fix; but it is essential that the fixing bath should be weak, not stronger than two ounces of hypo to the pint of water. After fixing—which, of course, we need not add, should be done thoroughly and preferably by using two fixing baths—washing must be thorough and plenty of water used. The print may then be hung up to dry, and whilst still damp a hot iron will smooth out all creases. So much for the photographic treatment of the silk.

We now come to the application of the silk for the preparation of cards and ornaments. For this purpose it is advisable to use masks and discs for printing, so as to give a clean margin on which to obtain ornamental work or painting. We will give one or two ideas, and leave it for our readers to devise other methods. We may obtain a print, either the usual landscape or portrait way of the plate, with a clean margin of say 1 inch, or $\frac{1}{2}$ inch for a half-plate, and having printed deep enough we may remove the mask, and covering the printed-out portion with an opaque disc we can either tone down the margins to a uniform tint, or, covering up three margins, we may cut a piece of cardboard about the width of the fourth margin, and bending up one end, slightly place this on the margin, and place the silk in the light. The bent-up cardboard allows the light to strike underneath, and we obtain a graduated margin ranging from deep black to white. Now shifting the masks so as to cover the margin we have just tinted, we may expose another margin at right angles to the first, and tinting it in the same way, obtain two margins ranging from black to white, and both black portions adjoining one another; we can then treat the opposite corners and margins in the same way, or may leave these pure whites for the application of water-colours.

Again we may print the landscape in an oval, a diamond, or circle, and apply to the margins one or two small natural thin leaves, or a spray of leaves, under a clean negative glass; allow the light to act; with sufficient exposure, it will be seen that an image of the leaf and its veins will be clearly discernible on a dark ground, and this may be easily touched up and tinted in water colours. If, on the other hand, a positive effect is desired, it will be extremely easy to arrange a spray of foliage, etc., and copy in the usual way, and use the negative with double printing. Thin and suitable leaves are doubtless difficult to find this time of the year, as most of the evergreen leaves are thick and succulent or else hard and siliceous, but suitable fern fronds, particularly the graceful maidenhair and adiantums, may be obtained of most florists. Dead or dying leaves may be used in the same way, or even leaf skeletons will form effective marginal sketches; and sketchy they should be—in no case should the marginal pictures detract from the central one by a too great prominence of depth and tone.

Water colours can be easily applied to the silk, using a ten per cent. solution of alum as a diluent, but the colours should be fairly dry, and when depth of colour is wanted, successive coats may be applied with good effect. To the artistic tastes and deft fingers of the ladies of the house, the further ornamentation may well be left. Their fertile and accustomed minds will easily devise special fringes formed by fraying the edges, or artistic chromatic combinations of cords, silk, and plush, and successful fabrications of handkerchief and glove sachets, dainty cases for the pocket, doyleys, fire and draught screens, cushions, and the thousand and one little knick-knacks which do so much to make the home artistic, and which are so quickly fabricated by their dainty fingers.



Letters to the Editor.

THE ILKESTON EXPLOSION: A WORD FOR THE SAFETY JET.

SIR,—Perhaps you can find space for a few remarks on this disaster. First, as a user of the lime-light, permit me to thank you for setting my mind at rest by stating so fully the causes of the explosion. It would be a pity if public confidence in this very popular form of winter entertainment should suffer by this sad event; the Secretary of the Douglas Photographic Society seems to be considerably daunted. His suggestion of examinations in lime-light working is good as far as it goes, but does not go far enough. Mr. Scattergood had twenty years' experience, and would no doubt have passed easily; yet an explosion occurs through causes beyond his control. This was due to the danger inseparable from the mixed jet, and brings me to my moral, which is, Why use the dangerous mixed jet, when the safety "blow-through" jet will give all the light needed for such exhibitions with absolute safety? With careful handling about 300 candle power can be obtained with the safety jet, which is ample for all the purposes for which we are likely to want lime-light; and if the oxygen be used from a cylinder instead of a bag, a pass-back is quite out of the question; there is no mixing of the gases, therefore an explosion or any other mishap is quite impossible, even in hands as inexperienced as mine were, when, without guide or instructor, I first essayed to use lime-light. I quite agree with you as to the fallacy of the notion that the light given by the safety jet is inadequate. I have used it now for several years, and can always throw a brilliant sixteen-foot picture. A few weeks ago I exhibited in a large public hall to an audience of nearly 1,000 persons. I used an "Optimus" lantern and blow-through jet; the pictures completely covered a sheet sixteen feet square; both lighting and definition were all that could be desired, and they were seen with perfect satisfaction by the whole of the large audience—all this with, in addition, the comfort of perfect safety. What better can anyone want?—Yours, etc., W. H. HAINES.

SIR,—I was glad to read your article on the "Ilkeston Explosion," as I had not seen the account of the inquest. The theory that there was a leak in the hydrogen bag is, in my opinion, untenable. The force of the explosion, the damage that ensued, etc., etc., all tend to prove that an explosive mixture of oxygen and hydrogen existed in one of the bags, most probably the hydrogen bag, and that it was in some way ignited, either by the shifting and displacement of the weights or otherwise.

Mr. Chadwick is, of course, quite correct in his statement respecting the uselessness of wire gauze in the mixing chamber of the oxy-hydrogen jet. Properly constructed valves are of some service on the connecting pipes, but I place little faith in the pumice-stone kind. The practice of placing the bags of oxygen and hydrogen in the midst of a crowded audience is much to be deprecated: they should be kept well at the back of the room or hall—the lantern also. To make this practicable, the operator should be properly supplied with long-focus as well as short-focus objectives. Again, the bags can often be placed outside the exhibition room.

From your account it would appear that the explosion occurred

before the oxygen had been turned on at the jets. You say, "The weights were placed on the bags, and the exhibitor proceeded to light up." This surely means to light the hydrogen only, for the purpose of heating the limes for a minute or so before turning on the oxygen (no skilful operator would turn on the hydrogen and oxygen simultaneously). A crack ensuing, the exhibitor discovered that his flames were out, then almost immediately the explosion!! It seems most probable, therefore, that the oxygen was never turned on at all, which tends to prove that the explosion occurred from the mixture in the so assumed hydrogen bag. Excuse me for troubling you with these remarks, but I am both personally and officially (as President of the Lantern Society) much interested in forwarding every description of photographic lantern work, as being a great means of educating, interesting, and benefiting all classes of the population. The creation of any alarm respecting the safety of the apparatus used at such exhibitions will impede their progress, and be very detrimental to their success.

It is my desire, therefore, to have the cause of such explosions and disasters fully investigated and cleared up, and proper precautions suggested for their prevention in future.

The society with which I have the honour to be connected will, I feel sure, endorse my remarks, many of the members being scientific men, and many of them skilled lanternists.

My humble advice to all inexperienced and unskilful operators is, "Use the blow-through safety jet, or the improved form of oxy-calcium burners (of which there are several), where no household gas exists."—I am, etc,

SLINGSBY BETHELL.

December 5th, 1891.

P.S.—Since writing the above I have read of the accident at the Photographic Club. I find that it is entirely confined to the failure of a pressure gauge, evidently overstrained, and that it in no way relates to explosive gas mixtures or mixed jets.

S. B.

SIR,—Noticing your comments with regard to a suggestion from the Secretary of the Isle of Man Photographic Society, as to an examination for lantern operators, I should like to know how the fact of having passed an examination for proficiency in operating with the oxy-hydrogen light will tend to mitigate or prevent accidents with same. Now I maintain that any person of average intelligence will be able to manipulate a blow-through jet, using oxygen from cylinder fitted with regulator, quite as safely with five minutes' instruction, as against five years' experience (with the exception that the illumination might not be quite so good). The only thing that I know of which can go wrong is that perhaps the rubber tube from the oxygen cylinder might get blown off the jet, owing to having turned on the gas at cylinder when the jet tap is turned off. This cannot be brought under the category of accidents. Perhaps your correspondent thinks that the fact of having a certificate would inspire the public with more faith in the L.L.O. I trust your correspondent will give further particulars as to how he contemplates the diminution of accidents through the fact of examination, which I feel sure will be interesting to all concerned with the optical lantern, including, yours sincerely,

ERNEST BENEST.

[We have received further communications on this subject, but reserve our remarks till next week.—Ed.]

THE LATE CHARLES WILLIAM SCHEELLE

SIR,—In connection with the early history of photography, the following circumstances may interest some of your readers, as a link between the very earliest investigators and the present time.

On Sunday, 6th December, died at Newcastle-on-Tyne, aged 73, Charles William Scheele, a resident there for fifty years, a worthy citizen, after only four days' illness, from congestion of the lungs.

The following paragraph taken from the introductory remarks in the catalogue of the Liverpool Photographic Exhibition of 1891 explains itself, and I venture to ask you to give it to your readers:—

"We come now, 1777, to a brilliant genius, Charles William Scheele, of Stralsund, in Swedish Pomerania. He was a distinguished investigator, and must be considered as one of the founders of modern chemistry. He made the first scientific investigation of the behaviour of silver chloride under the influence of light. First he noticed the action of differently coloured light, that the silver salt was quickly darkened by violet or blue, then

that red or yellow rays had much less effect, but Scheele also discovered the cause. These technical particulars I need not enter on; it is, however, the first leading principle of all photographic covery. Scheele really obtained the first photograph ever produced, by fixing a glass prism in his window, and allowing the refracted sunbeams to fall on paper prepared with a salt of silver. In performing his experiment Scheele had no idea of the uses to which his discoveries have since been applied in the formation of photography. His sole idea was to demonstrate a principle existing in light.

"As a connecting link between this historical period and the present, a lineal descendant of Charles William Scheele, of Stralsund, bearing the same name in full, has been resident in Newcastle-on-Tyne for nearly half a century. He was also born in Stralsund, and is also engaged in the chemical industry. Two of his daughters are married, and resident in Cheshire."—I remain, etc,

THOS. S. MAYNE.

Liverpool, December 7th, 1891.

ALPHA AND BROMIDE PAPER.

SIR,—In the rather meagre report furnished to you of the proceedings at the last meeting of the West London Photographic Society, I am reported as asking the elementary question whether Alpha paper could be used for enlarging—information that I did not stand in need of, as I have been in the habit of so using the paper from the time of its first introduction up to the period when the makers considerably reduced its rapidity. As I am a great admirer of the process, I am glad to take this opportunity of publicly asking the Ilford Co. whether it would not be worth their while to again issue a more rapid make of Alpha paper. In answer to my remarks as above, Mr. Howson said the more rapid paper would not keep so well, and that there would be no demand. On the first point, I may say, I never had much difficulty when the paper was stored in a dry place, and on the second I should like to take the opinion of your readers.

The person who is responsible for the report omitted to refer to the only remarks of mine which were worthy of notice, but as they may interest some of your readers, perhaps you will allow me to refer to the matter here. I refer to the toning of Alpha and bromide papers with the platinum intensifier of the Platino-type Co. The solution is diluted with from one to three times its bulk of water, and the print, after fixing and thorough washing, is immersed in the solution face upwards, and the toning action arrested when the desired colour is arrived at. This treatment gives the nearest approach to sepia of any photographic process with which I am acquainted, and as to its permanency I may mention that I have prints by me which were so treated four years ago, which do not exhibit the least trace of fading.—Yours, etc.,

JOHN A. HODGES.

87, Chancery Lane, December 7th, 1891.

EXHIBITION RULES.

SIR,—Surely the time has come when a stop should be put to the practice of a noted worker sending one, two, or a set of pictures the round of the exhibitions, carrying all before them, and against which it becomes practically useless to compete.

The Liverpool Committee set an excellent example in making the condition that no picture there should have been exhibited before. I consider that the interest in all future exhibitions would be greatly enhanced if this rule were generally adopted. It would prevent the possibility of some photographer producing by luck a picture which might secure medals wherever exhibited, whilst, probably, nine out of ten of his ordinary results would not be worth notice.

It would be interesting to know the opinion of more of your readers on this subject.—I am, yours, etc,

FAIR PLAY.

December 5th, 1891.

A PLEA FOR COMMON SENSE.

SIR,—With reference to the letter of Mr. Davis in your issue of the 4th inst., I need hardly say that the words he quotes from the official catalogue of the Royal Academy will not bear the interpretation he has placed upon them. Landscape paintings without figures of any kind have been exhibited year after year at the Academy by artists of the first rank. Apparently this gentleman's acquaintance with the Academy has been confined to a perusal of the official catalogue. Your correspondent's in-

ference that the Academy do not teach landscape painting because "they do not consider it to be a branch of fine art at all" is really too childish to need refutation.—I am, etc.,

A LANDSCAPE PHOTOGRAPHER.

* * * *

A WARNING.

SIR,—My attention was drawn to an advertisement in your issue of 20th ult. offering—

"Facile, Fallowfield's, scarcely soiled; will sacrifice immediately for 20s.; first P.O. will purchase.—Address," etc.

As the lens alone of each "Facile" is worth 42s., I was curious to know whether the advertisement was merely a trick, and asked a friend to call at the address given. He did so, and reports that the advertiser agreed to rent some portion of the back premises at the address given for 1s. 6d. a week rent, asked to have a letter box affixed, and called occasionally for letters.

It would be interesting to know if any of your readers sent remittances, and with what result; but meanwhile I should like to warn them against purchasing my goods second-hand without knowing who they are dealing with or seeing the goods first.

Several instances have recently come to my knowledge where goods bearing my name have been palmed off on customers who neglected to ascertain first that they were really genuine.

The woodwork of each camera bears private marks put upon it in my own factory, and these I am always ready to certify, and as the lens of every "Facile" sent out is guaranteed absolutely perfect, I am only too pleased to test any sent me by second-hand purchasers for examination, and can thus protect them against buying worthless imitations of a genuine article whose reputation ensures it a ready sale at a good price even when second-hand.—Yours, etc.,

JONATHAN FALLOWFIELD.

December 7th, 1891.

* * * *

LENSES.

SIR,—The method of finding the equivalent focus of a lens recently discussed in your columns, which I published in September, 1879, and which consists in focussing an object to a given scale, measuring the distance of the ground-glass from the object, multiplying that distance by the ratio between image and object, and dividing by the square of a number higher by 1 than that by which it has been multiplied, is, I think, not only the most convenient for most cases, but useful as affording a general lesson on the subject of conjugate foci.

Like the other methods given for ascertaining the focus of a lens, this one depends upon the application of the law of conjugate foci. For example, if we focus a foot rule to measure 3 in. on our ground-glass, we have an image of one-fourth the size of the original. Suppose the distance from object to image to be $37\frac{1}{2}$ in.; multiplying this by 4, we get 150, and dividing by 25 (the square of 5, a number higher by 1 than that used as the multiplier), we get 6 in., which is the equivalent focus required. It is now easily seen that we have a distance equal to the focus multiplied by the ratio on each side of the lens and two foci more. Thus in the case supposed, we have in front of the lens five foci, that is four (the ratio of the object to the image) plus one focus equals 30 in.; and on the other side we have 1½ foci, that is, one-fourth of the focus (the ratio of the image to the object), plus one focus, equals $7\frac{1}{2}$ in. A few examples of this kind worked out will give an understanding of the law of conjugate foci sufficient to enable the worker to dispense with tables of distance in any desired enlargement or reduction.

W. E. DEBENHAM.

December 7th, 1891.



Places of Interest in our own Country.—On Tuesday evening, December 1st, Mr. J. Porrett (of Leicester) delivered a very interesting and instructive lecture on "A Visit to Some of the Palaces, Castles, Cathedrals, Ruined Abbeys, and other Places of Interest in our own Country," illustrated by a large number of beautiful slides, in the hall of the Leicester Young Men's Christian Association. There was a crowded audience and enthusiastic applause.

Photographic Procedure.

By E. J. WALL,

Author of the "Dictionary of Photography."

SECTION III.

EXPOSURE TABLES, PHOTOMETERS, ACTINOMETERS, ETC.

Exposure.—We have now reached what may well be called the *pons asinorum* of photography. Much has been written on this subject, and many tables and instruments have been calculated and devised which have had for their purpose the facilitating of the understanding of this important point. Whether I shall be able to make any points clear, or whether my notes will be of any practical service, I dare not decide, but must leave that for my readers to determine. It is true that I approach the subject with a good deal of misgiving, perfectly conscious that much that I have to say is old and threadbare, and the only merit I can claim is in collecting together published facts and tables.

With due apologies to Mr. Alfred Watkins, I am compelled to adopt his method of treating the subject, and thus divide the factors which influence the duration of exposure into five distinct points: (1) Light, (2) Plate, (3) Subject, (4) Diaphragm, (5) Distance.

(1) *Light.*—In estimating the quality of the light which falls upon the subject, we have several points to take into

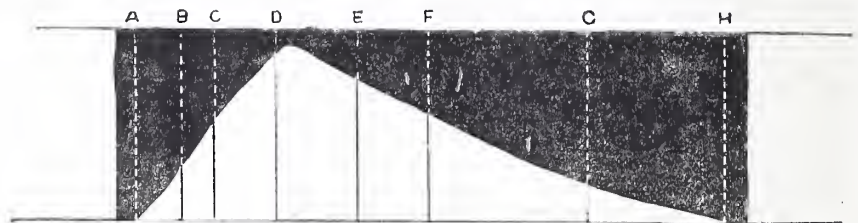


FIG. 92.

consideration. It has been and still is the accredited custom of many operators to judge of the quality of the light by the image as seen on the focussing screen; that is to say, many operators still employ the method of calculating exposure by means of the optical brightness of the light, and not by the chemical brightness—two totally distinct properties of light, between which there is not, unfortunately, any fixed ratio or connection. In fig. 92 is seen a graphic representation of the luminosity of the different parts of the spectrum to the human eye, and in fig. 93 to the sensitive salts of silver. From these it will be seen that the greatest luminosity to the eye is between D and E, that is in the yellow, whilst to the sensitive salt of silver the maximum of sensitiveness is between F and H, in the blue and violet. According to Vierordt the relative optical brightness of the spectrum colours is as follows:—

Red at B	2	Green at E	37
Orange at C	12	Bright blue at F ..	12.8
Yellow at D	72	Dark blue at G .. .	0.8
Yellowish-green between D and E ..	100	Violet at H	0.07

I know of no published table which will give us a similar estimate of the photographic brightness of these colours. The following incomplete table is based on calculations which, though not scientifically correct, are sufficiently near for our purpose:—

Violet	80	Yellow	9
Blue	100	Orange	4
Green	66	Red	2

A comparison of the two tables at once shows that any method of estimating the light by its optical brightness is unreliable; this fact is further proved by comparison of the following, taken from Eder's Handbook:—

Source of Light.	Optical Brightness.	Photographic Brightness.
Amyl acetate lamp ..	1	1
Lime light (Drummond's) ..	70	260
Gaslight (Argand burner) ..	16	28

Other important factors in determining the quality of the light are, climatic or meteorological circumstances, the latitude of the place, and the height of the object above the level of the sea, this last only being taken into account when on mountains, etc. It will be almost impossible for me to give full and complete information, but as far as possible within reasonable limits I shall do so.

Dr. Holetschek, of Vienna, has reckoned for Vienna and all places of that latitude the chemical light intensity of sunlight and that of a blue sky, which are taken from "Eder's Handbuch der Photographie" (1 Band, Heft 2, pp. 325 et seq.):—

Chemical Intensity of the Light from a Blue Sky.

	Noon.	11 a.m.	10 a.m.	9 a.m.	8 a.m.	7 a.m.	6 a.m.	5 a.m.	4 a.m.
21st January	26.53	25.53	22.30	16.42	7.41	—	—	—	—
20th February	32.22	31.43	28.93	24.14	16.31	5.13	—	—	—
20th March	36.23	35.77	34.10	30.65	24.64	15.32	2.78	—	—
21st April	38.07	37.90	37.13	35.12	30.99	24.14	14.18	1.64	—
22nd May	38.30	38.29	38.02	36.85	33.98	28.66	20.62	10.23	—
21st June	38.27	38.30	38.18	37.27	34.77	30.06	22.75	13.14	2.07
21st July	38.30	38.29	38.02	36.85	33.98	28.66	20.62	10.23	—
21st August	38.07	37.90	37.13	35.12	30.99	24.14	14.18	1.64	—
23rd September	36.23	35.77	34.10	30.65	24.64	15.32	2.78	—	—
21st October	32.22	31.43	28.93	24.14	16.31	5.13	—	—	—
21st November	26.53	25.53	22.30	16.42	7.41	—	—	—	—
21st December	22.63	22.57	19.14	12.90	3.48	—	—	—	—
	Noon.	1 p.m.	2 p.m.	3 p.m.	4 p.m.	5 p.m.	6 p.m.	7 p.m.	8 p.m.

Chemical Intensity of Direct Sunlight.

	Noon.	11 a.m.	10 a.m.	9 a.m.	8 a.m.	7 a.m.	6 a.m.	5 a.m.
21st January	13.27	10.97	5.44	0.80	—	—	—	—
20th February	33.54	29.81	20.09	8.27	0.76	—	—	—
20th March	62.25	57.64	44.45	26.44	9.18	0.47	—	—
21st April	98.29	88.17	73.51	51.96	27.87	8.27	0.25	—
22nd May	111.77	106.65	91.85	69.52	43.65	19.24	3.50	0.01
22nd June	117.44	112.36	97.77	75.62	49.26	24.11	6.06	0.12
21st July	111.77	106.65	91.85	69.52	43.65	19.24	3.50	0.01
21st August	98.29	88.17	73.51	51.96	27.87	8.27	0.25	—
23rd September	62.25	57.64	44.45	26.44	9.18	0.47	—	—
21st October	33.54	29.81	20.09	8.27	0.76	—	—	—
21st November	13.27	10.97	5.44	0.80	—	—	—	—
21st December	7.40	5.81	2.24	0.10	—	—	—	—
	Noon.	1 p.m.	2 p.m.	3 p.m.	4 p.m.	5 p.m.	6 p.m.	7 p.m.

Combined Power of Blue Sky and Sunlight.

	Noon.	11 a.m.	10 a.m.	9 a.m.	8 a.m.	7 a.m.	6 a.m.	5 a.m.	4 a.m.
21st January	39.80	36.50	27.74	17.22	7.41	—	—	—	—
20th February	65.76	61.24	49.02	32.41	17.07	5.13	—	—	—
20th March	98.48	93.41	78.55	57.09	33.82	15.79	2.78	—	—
21st April	131.36	126.07	110.64	87.08	56.86	32.41	14.43	1.64	—
22nd May	150.60	144.94	129.87	106.37	77.63	47.60	24.02	10.23	—
21st June	155.70	150.66	135.94	112.89	84.03	54.17	28.21	13.26	2.07
21st July	150.67	144.94	129.87	106.37	77.63	47.60	24.12	10.23	—
21st August	131.36	126.07	110.64	87.08	56.86	32.41	14.43	1.64	—
23rd September	98.48	93.41	78.55	57.09	33.82	15.79	2.78	—	—
21st October	65.76	61.24	49.02	32.41	17.07	5.13	—	—	—
21st November	39.80	36.50	27.74	17.22	7.41	—	—	—	—
21st December	31.03	28.38	21.38	13.00	3.48	—	—	—	—
	Noon.	1 p.m.	2 p.m.	3 p.m.	4 p.m.	5 p.m.	6 p.m.	7 p.m.	8 p.m.

Another very useful table, compiled by Dr. Spitaler, is the following, which gives one an idea of the quality of light

for every ten degrees of latitude, for the northern hemisphere, and the middle of each month. This may be used for the southern hemisphere by altering the time of year, thus, January in the place of July, etc. :—

Latitude.	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°
January	408	332	250	161	80	22	1	—	—	—
February	437	355	232	146	68	15	—	—	—	—
March	451	433	391	329	251	166	84	23	—	—
April	433	451	445	414	361	288	203	113	31	—
May	396	442	465	464	438	388	315	212	195	208
June	373	430	467	481	469	432	367	280	213	324
July	384	432	465	471	452	408	340	222	250	259
August	418	446	451	431	388	323	242	150	69	72
September	444	434	408	356	286	204	119	45	5	—
October	441	399	338	261	176	94	30	2	—	—
November	415	348	286	178	96	32	2	—	—	—
December	397	319	231	142	64	14	—	—	—	—
Mean of the Year	416	405	374	327	267	203	146	87	72	74

FIG. 93.

An instructive letter on this point appeared in the AMATEUR PHOTOGRAPHER, Feb. 6th, 1891:—

SIR,—I send you herewith some actinometer readings recently taken during a voyage from London to Melbourne. The idea was to prove for myself the variations in the photographic power of light as the equator is approached. The ground had previously been broken by Mr. O'Farrell, who experimented between London and Aden, and, in an article contributed to the *British Journal of Photography* a year or two ago, he states that the light at Aden (about 13 deg. north latitude) in September is twice as actinic as the best June light in England. This is contrary to the opinion I had heard expressed more than once, viz., that tropical light is less actinic than June light in England, and my own very slight experience appeared to confirm this opinion, for a few snap-shots I once took at some diving boys at Aden certainly did seem to require a lot of persuasive coaxing before yielding sufficient detail.

The following are my results, which were obtained with a Stanley actinometer, freshly charged by the maker just before starting, and kept in an air-tight despatch box when not in use:—

Date.	Place.	Position.	Hour.	Actinometer Reading, in Seconds.
Oct. 2	London (Pall Mall)	Lat. 52 N. ...	1 p.m.	Sun. 13 1/4
" 5	Centre Bay of Biscay	" 46 N. ...	10.30 a.m.	1
" 7	Gibraltar ...	" 36 N. ...	Noon.	7 5/8
" 11	Malta ...	" 36 N. ...	Noon.	3 3/8
" 14	Port Said ...	" 31 N. ...	1 p.m.	2 1/4
" 20	Aden ...	" 13 N. ...	Noon.	2 1/2
" 29	At sea ...	Equator ...	Noon.	1 1/2
Nov. 1	" ...	Lat. 13 S., long. 95 E.	11 a.m.	1 1/2
" 4	" ...	" 26 S., " 107 E.	Noon.	1 1/2
" 7	Albany ...	" 35 S., " 118 E.	Noon.	2 1/4
" 13	Melbourne	" 37 S., " 145 E.	Noon.	2 3/4

* Full.

Although the Pall Mall reading was taken with the sun shining out of a cloudless sky, there was the faintest suspicion of haze, and as October light at noon in England is generally reckoned to be about half as actinic as the best June light, I reckoned that at noon in June this actinometer would have darkened in three-quarters of a second; and if Mr. Stanley's papers are of unvarying sensitiveness this reckoning would be correct, for readings taken in June at Torquay before the instrument was recharged gave this result.

The conclusion that these experiments point to is that within

the tropics at noon, any time of the year, light is 50 per cent. more actinic than in England at noon in June.

In all cases the time was taken by estimation. This may sound rather rough and ready to many of your readers, but any of them who have done astronomical transit work can assure the sceptics that it is very easy, with a little practice, to count seconds and parts of a second.

In the case of the readings for Gibraltar and Malta, three-quarters of a second was too little and one second too much, so the difference was split.—Faithfully yours,
ALFRED CORNISH.

The Lantern, and How to Use It.

BY C. GOODWIN NORTON.

CHAPTER IV.

GAS CYLINDERS of various sizes, containing from 6 to 100 cubic feet, are made of welded steel by a new process, rendering them sufficiently strong to withstand the great pressure to which they are subjected. They are tested to 3,000 lb. per square inch, or 200 atmospheres. When full of gas ready for use, the pressure should register 1,800 lb., or 120 atmospheres. Cylinders are also made which can be filled to a pressure of 170 atmospheres; these are tested to 4,470 lb. to the square inch. They are sent out fitted with valves to secure the gas. In some cases the necessary fittings—nipple, union, and key—are included in the price of the cylinders, in others they are charged as extras. Unfortunately, there are at least half a dozen different kinds of threads to connect the fittings or regulators to the gas bottles, and two different sized keys. This is much to be regretted, as several mishaps have happened from this cause when bottles have been borrowed or hired. Connectors are made, but this makes another loose piece of apparatus to be carried—and lost. The screws most usually met with on cylinders are (1) internal screw, $\frac{7}{8}$ in. diameter, either right-handed for oxygen or left-handed for hydrogen; (2) external screw, $1\frac{1}{8}$ in. diameter, either right or left hand; (3) external screw, $1\frac{1}{2}$ in. diameter; (4) right-hand thread, $\frac{5}{8}$ in. diameter. In some cases the connections are made gas-tight by a cone pressing firmly into a cup. Care must be taken not to get these bruised. Others depend upon a leather washer, which must be looked to occasionally. Should the lanternist be in a fix by having to employ a cylinder and regulator which do not match, a local gasfitter can, perhaps, help him, as the right-hand threads are generally made to correspond with iron gas barrel fittings; and even with left and right screws of the same size, internal and external, it is possible to force them together and make a gas-tight joint for one occasion. But this of course, should only be done as a last resort; both threads would most likely be spoiled.

The key should be in the form of a lever, and not less than six inches long, this shape being more under control than when the handle is in the form of a T, it being most important that the valve should be opened very slowly. Care should be taken not to screw up the valve too tightly. The simplest plan to ascertain whether it is quite closed is to wet the finger and pass it over the outlet to form a film. The very smallest escape can be detected in this way.

Oxygen cylinders are always painted black, hydrogen red. Should they require repainting, it is perhaps best to get them done by the filler, who certainly would not make a mistake in the colour.

Some hydrogen cylinders have connections fitted with a left-hand thread; this is done to avoid the chance of accident by reason of the wrong gas being put into them at the works. Red rubber tube should be used for hydrogen, and black for oxygen, and it is strongly recommended that the regulators, gauges, taps of the jets, outlets of the dissolvers, and supply pipes at back of lantern be coloured red and black respectively. It would then indeed be by gross care-

lessness only that an accident could happen from the gases getting prematurely mixed.

As some guide to the size of cylinder or bag to be purchased, a single lantern with blow-through or spirit jet requires at least 4 cubic ft. of oxygen per hour. A biunial for dissolving will require 6 ft. A triple lantern will require 7 ft. Mixed jets consume rather more hydrogen than above, but a little less oxygen. These quantities are sufficient for a lecture of one hour with care, but if what is called "effects" are used or any gas be consumed in getting ready, a little more had better be provided.

Oxygen can be used direct from the cylinder, but it is unsatisfactory; the rubber tube is sure to be blown off if the tap at the jet be closed while the valve of the cylinder is open. At present there are several different kinds of regulators in the market, but all are constructed on much the same principle. A certain quantity of gas passes into the regulator, which causes a bag or bellows to distend and close a valve preventing any more gas coming from the cylinder. A spring acts on the bag, and forces the gas towards the light; as the bag closes, the supply from the bottle is again renewed.

Clarkson's bellows regulator is wedge-shaped, like a small gas-bag, and acts in the same way, except that there

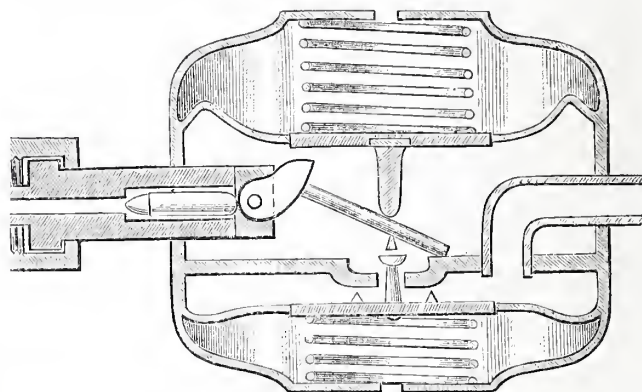


FIG. 6.

is a spring in place of weights. This regulator was found to have certain minor faults. Mr. Clarkson has introduced another, the Patent Duplex Regulator (fig. 6), having two small bags inside, so that any defect in the action of the first shall be corrected by the gas having to pass a second; this thoroughly controls the flow of gas. The taps of the jets and valve of the cylinder need not be touched whether using three lights or only one.

Board's regulator (fig. 7) automatically regulates and gives one even pressure, so as to keep compressed gases under control either with single, double, or triple lantern.

The springs of these three regulators can be set to almost any pressure. From 12 to 16 in. of water will be found about the best for general purposes; if stronger, the jets are apt to hiss; if weaker, the bellows may fail to act. For blow-through jets the pressure should be as low as possible, provided, of course, the bellows work properly.

Another regulator, known as the "Reliable" (fig. 8), is all metal, about half the size of the others, and will be found to do

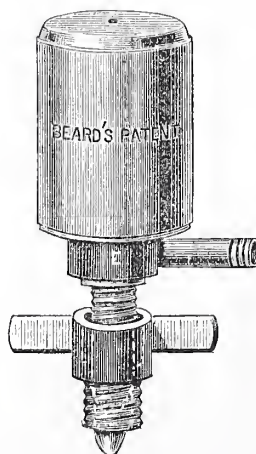


FIG. 7.

all that the patentee claims for it, viz., to automatically control and regulate the pressure of gas coming from the cylinder, whatever sort of lantern or number of lights be used.

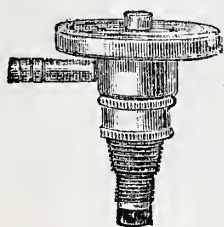


FIG. 8.

Messrs. Noakes, of Greenwich, and Riley, of Bradford, each make a non-automatic regulator for use with single lantern and blow-through jet. The supply of gas can be regulated to a nicety, but these regulators will not prevent the rubber tubes being blown off should the tap at the jet be inadvertently closed.

Taps are sometimes fitted to the outlets of regulators, but this can hardly be recommended; if anything goes wrong with the valve or bellows, the rubber tube would act as a safety valve and be simply blown off, but if the tap be closed this element of safety is wanting.

A word of caution: regulators are perhaps the most delicate of the working parts of a lantern outfit. The makers test them before they are put on the market, but it is obvious that the price at which they are sold does not permit of their being tried with three lanterns with effects, the only real test for a regulator. Therefore should the regulator not do all that is required, it should be returned for readjustment. Generally it is the spring that is in fault.

Mr. Hughes has introduced a patent automatic lever movement, which is intended to combine the advantages of compressed gas in cylinder with the even pressure secured by gas bags. It can be adapted to almost every type of regulator, but Beard's is mentioned as being the most suitable.

Pressure Gauges.—Up to the present time these have been constructed on the same principle as a steam gauge. The gas is directed into a bent steel tube with no outlet; the pressure has a tendency to straighten this tube, the amount of deflection being shown on a dial marked in atmospheres.

TABLE SHOWING THE AMOUNT OF GAS, IN CUBIC FEET (APPROXIMATE), IN CYLINDERS, FROM THE INDICATION OF PRESSURE GAUGE.

Pressure in Atmospheres as indicated on gauge.	Sizes of Cylinder, in cubic feet capacity.					
	6	10	12	15	20	40
20	1	1½	2	2½	3	6
40	2	3½	4	5	6½	12
60	3	5	6	7½	10	20
80	4	6½	8	10	12½	25
100	5	8½	10	12½	16½	33½
120	6	10	12	15	20	40

This table, which can be pasted inside the lantern box, will show at a glance what amount of gas is in the cylinder, or it may be calculated by proportion, thus: As 120 is to the number of atmospheres indicated by the gauge so is the capacity of the bottle to the number of feet in the bottle.

Thus, 120 : 60 :: 10 : 5. Ans. : Number of feet in bottle.

Or, 120 : 20 :: 40 : 33. " " "

Many accidents have happened with these gauges, caused by the gas being suddenly forced against the end of the steel tube, which gives way.

The risk of accident may be minimised by turning on the gas a very little before applying the gauge; but this cannot well be done when the gauge and regulator are attached to the bottle by a T piece.

Mr. Clarkson's gauge is fitted with an unflammable liquid slightly compressible and sufficient to resist the shock.

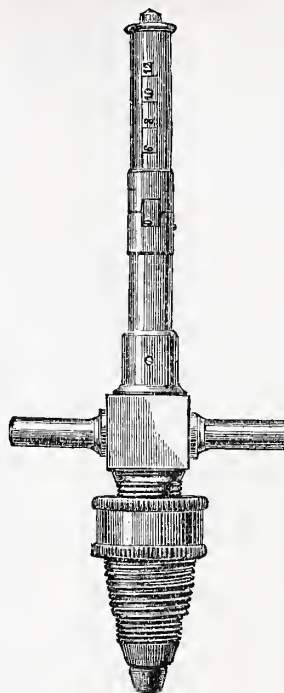


FIG. 9.

There is also a valve which cuts off the gas should anything give way in the gauge. It is not safe to use the ordinary gauge for both oxygen and hydrogen.

Suiter's Pocket Gauge (fig. 9) is a useful instrument; it has no glass or fragile indicator to get broken, nor is anything likely to burst. The gas is forced into a tube which begins at once to lengthen, and should the pressure be too great for the gauge to register, an inner tube is forced out, thus letting the gas escape. These gauges are light, portable, and simple, having no wheels or levers to get out of order.

In Steward's improved gauge there is inserted a special plug so that the gas shall only enter slowly; this reduces risk of accident.

For those who do not care to use gauges at all there is another way of ascertaining what quantity of gas is in the cylinder, viz., by weight. Three cubic feet

of oxygen weighs 4 oz.; house gas, 2 oz. per 3 cubic ft. The tare, or weight of cylinder without key, cap, or nose piece should be plainly painted on the outside, also the gross weight when full.

To ascertain the quantity of gas in a partially emptied cylinder is then a very simple matter.

Mr. Steward has just introduced a spring balance for this very purpose, or the nearest tradesman will generally oblige by weighing a bottle, especially if he is offered "an order" for the entertainment.

Limes are of two kinds, hard for use with the mixed jet, and soft for the blow-through. Nottingham limes are the hardest and most durable, but it is doubtful whether they give as much light as those made from hard chalk lime.

The soft description is usually made from grey lime, such as is commonly used for building purposes.

Should the lanternist attempt to make his own, as he may have occasion to do, the hard pieces in the soft description should be avoided, taking as a general rule that anything in the lime that will not slack will give little or no light, although in an emergency a piece of chalk that has not been burnt at all will answer the purpose fairly well.

The hard limes should be turned up in the form of a cylinder 1½ inches long and three-quarters of an inch in diameter; the soft variety may with advantage be made much larger. The hole to receive the pin should be drilled exactly in the centre, so that the distance from the nipple of the jet to the lime is always the same.

Mr. Pumphery, of Birmingham, recommends lime discs about 2 in. across, but the jets for these have to be made of a different shape. These discs being enclosed in a ring may crack, but do not fall, as cylinders sometimes will.

All limes must be kept quite dry; it will be found a good plan to thoroughly dry them immediately before use. A stock of limes is best kept in self-opening tin cans with a little sealing or bottle wax, or pitch run into the groove. A brass lime cylinder is best for keeping those for immediate use. Mr. Clarkson's patent lime box has separate recesses for each lime, in a tray which slides out of the long brass tube with air-tight cap.

Composition, and Light and Shade.

Selected and arranged for the use of Photographers, from "Burnet's Essays," with Introduction and Notes.

BY H. P. ROBINSON.

CHAPTER XX.

FIG. 48. In this subject we have the light figure upon the dark ground, and vice versa. In nature we often perceive strong effects arising out of simple and decided principles, which, if sketched at the time, will be of the utmost value to the student, by giving him an insight into the science of light and shade; and will often serve as a key to commence with in forming larger combinations. Reynolds mentions a mode of composing by taking a figure from some celebrated master, and designing others to correspond with it; thereby imparting a grandeur of style to the whole. So, by commencing with something sketched from nature, we give a decided look of truth to the other parts of the picture.

Many painters model their groups for the purpose of obtaining a true representation of the light and shade. Small figures, however rude in form, will serve this purpose, and give the artist many invaluable hints.

Tintoret and Correggio, both great masters of chiaroscuro, are known to have availed themselves of this method; and the student must have a most erroneous idea of his art who imagines excellence can be obtained without the assistance of every auxiliary. The most learned arrangements of light and shade may astonish; but there is a charm in the chiaroscuro of nature which carries irresistible sway.

Fig. 49. In this subject we have the dark group brought off the light side of the background in the simplest and most decided manner; and the principles of light and shade

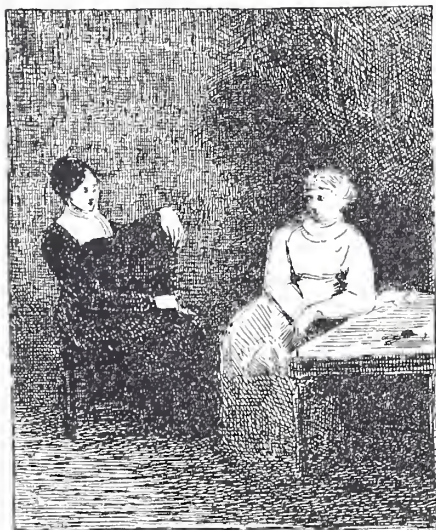


FIG. 48.

made applicable to giving the strong look of nature, viz., breadth and solidity to the ground, and light and extent to the sky. Rembrandt has often been accused of being artificial in his effects, but he never misses his aim, either in representing the splendid emanations of light, or the quiet depths of shadow; the peculiar character of an object, either in texture or in colour, and

that appearance, familiar to the recollection of every one, but to convey which, either in poetry or in painting, is only in the power of a few.

Rembrandt seems always to have taken up a leading feature in his works, and never to have lost sight of it. The varieties in his prints are but corroborations of this: as in his anxiety for its preservation we trace him destroy-

ing every impediment, either by covering down or burying whole groups in shadow, or by leaving in an unfinished state other groups, with a mere outline to define them. For example, if we take the first state of the print of the great Ecce Homo, we perceive he has made Christ in the centre of a group, in a quiet broad mass of light, with the strong darks gradating from Him, right and left, and surrounded by masses of half tint. He has then etched in the principal group, commencing with the figure addressing the multitude, and terminating with the right hand of Pilate. This portion being in strong light, interspersed with a



FIG. 49.—REMBRANDT.

variety of strong darks, acquires by this means great brilliancy and agitation. We have therefore the quiet character of Christ preserved, and His superiority maintained, by His forming the centre of one group, and the apex of the other, rising, as Fuseli describes it, "like a pyramid from the tumultuous waves below."

If we take his print of the Angels appearing to the Shepherds, in the first state we find a broad mass of shadow running through the centre in a diagonal line, thus giving it its greatest magnitude. In the upper part is preserved the principal light, radiating from a centre, with a multitude of children sporting in its beams, and out of which the angel addresses the shepherds across this gulf of shadow. The second light, which is in the lower portion of the print, he has, in the next state, cut up by a number of darks and lights, irregularly dispersed, thus conveying the appearance of confusion and terror to the shepherds, their herds and flocks, which are represented flying in all directions. These two examples out of many, which the student will discover by his own examination, will suffice to show that light and shade may be made to contribute to the character and fitness of the subject, and that of this adaptation of it, Rembrandt holds unrivalled possession.

Fig. 49 is a rough sketch of Rembrandt's famous etching, "The Three Trees," and affords a good example of a forcible effect, very possible in photography. It consists of the simplest materials. Three stunted trees, a bank, a bit of distance, and a fine sky, arranged in simple masses. A broad mass of dark is opposed to a broad mass of light, softened and harmonised together by delicate gradations in small quantity. The effect necessarily suffers in a small sketch copy, but on looking at the original etching it is easy to imagine, if not to see in the cumulous clouds, as Mr. Seymour Haden has enthusiastically said, "sun and rain contending in wreaths of various transparency, and all ready to burst and scatter themselves in glittering spray on the thirsty and glittering plain." It has been said of Rembrandt that he

had the gift, which perhaps no artist ever possessed in greater measure, of never failing to impress a sense of balance and unity upon his work. Within the long series of his wonderful etchings nothing is found incomplete, though there is much left at the point of simple indication. If he had only written his name upon a plate, we feel that he would have put light and shade, gradation and effect into it—it would have been a work of art.



A National Photographic Institution Required.

BY LYDDELL SAWYER.

THE internal disturbances occurring just now in the affairs of the Photographic Society of Great Britain make it an appropriate moment to look into the requirements existing for a more up-to-date, active, practical national institution connected with photography than this society has proved so far to be, and to note wherein it has principally fallen short.

There appear to me to be three clear and distinct duties devolving on an institution claiming the important privilege of being the parent representative society of Great Britain. These are: (1) to look after technical and scientific education, (2) to regulate and protect the art aspects of photography, and (3) to encourage social intercourse among photographers.

Now, as regards the educational, technical, and social aspects, the present society, like Gilbert's House of Lords, has "done nothing in particular, and done it very well;" it has sat in "glorious inactivity," while the City Guilds and the Camera Club have pointed out to it its neglected duties, the one by arranging technical lectures and granting certificates, the other by creating an adequate Club-house, for their own amateur section, which I, for one, as a professional, quite envy.

The only stronghold of the society has been its annual Exhibition in Pall Mall. Though it has limited its assistance to art in photography strictly to its own show, yet this has so far been carried out on very good lines, and has been, we will all admit, very deservedly popular. But what are we now to think of the managing discretion of this society, when they let the principal men who make the exhibition a success, such as Robinson, Blanchard, Davison, and Van der Weyde, secede from their ranks, while they sit complacently by watching the advancing tide of modern requirements surround and threaten to engulf them? I am only one of many, I believe, who cannot by remaining members tacitly endorse this cut-throat policy of the Council which threatens to entirely overthrow both the society and its exhibition.

Truly a correspondent has quoted, "Whom the gods would destroy they first make mad!" But let us not weep at the perspective demise of the P.S.G.B., and its present circumscribed utility, if it can but rise on the stepping-stones of its dead self to greater things.

Let us see what occupation we could give to a practical institution having prominently, as its object of being, the three branches which I have enumerated. First as to technical instruction. At present a person who buys one of these photographic toy cameras, presses the button, and lets someone else mess on with the rest of the shoddy arrangement, may equally call himself a photographer with the genuine student who has expended years in grasping and mastering the many problems of (say) professional portrait photography.

I mean that there is no photographic tribunal to examine either person and certify to his grade of capacity by degree or diploma. We have some such extraneous aid from the City Guilds, but surely it is the more disgrace to us that we cannot yet manage our own affairs. I should, however, think it requires few words that I can write to state what incentive to study would arise, and how it would elevate photography, if our proposed institution, as a national body, took the hint from the City Guilds and gave educational, technical, and theoretic art lectures, held classes for study, and had periodical examinations whose various diplomas certified to the qualifications of the holders. I know at least several men in the present Photographic Society of Great Britain who would be thus much better occupied in "teaching the young idea to shoot," than by their present method of splitting hairs in dry-as-dust, abstruse sub-

jects which no one in particular troubles to either read or care about.

Next we have the question of fostering the art side of photography. It is not enough, I contend, in the present day, for our national institution to simply itself hold a good exhibition. It should overlook and generally regulate other exhibitions as well. One of its first duties might well be to appoint an art council from among the most suitable of its members. Let them elucidate further the present hazy and ill-defined notions of what really constitutes the commendable art qualities of a photograph, and they might remain permanently as a court of appeal to look after and deal with all things of the hour appertaining to photographic art. The matter of consistency and limitation of art awards will at once suggest itself as a burning theme requiring establishing on a more official and legitimate basis. The council might form a universal set of rules controlling classes and firmly discountenancing the usual method of showering medals at the least provocation.

An attempt was made some time ago to form an exhibitors' league, the members certifying not to contribute to any exhibition where certain purer controlling rules were not abided by; but while the object was very commendable, it appears to me that it was not the consistent province of the exhibitors to exercise this control; it was like putting the cart before the horse. If the art council of our proposed National Institution took this matter up and formulated suitable rules, they could allow promoters of exhibitions adhering to these regulations to duly notify that the exhibitions were held under the National Photographic Institution rules, and awards so gained would carry increased value from this and having N. P. I. (National Photographic Institution) imprinted thereon.

There is much room to thoroughly discountenance and rout out the oft-times "shady" inconsistencies arising from the fact that A. can only obtain a gold medal in a competition of the principal works of the world, whilst B. may also get a gold medal bestowed in a limited *members'* class of a society, or a confined book or paper competition. I believe in beginners receiving due encouragement, but it is to the interest of all concerned in progress that the awards should certainly be of a lower signification commensurate with the humbler intrinsic merits of the photograph.

A list of names of only those men who have shown some evidence of ability to judge might be arranged, and added to as necessary, by the Art Council, these only to be recognised as official N.P.I. judges, and from among whom exhibition promoters under these rules must select.

These judges should be pledged to give gold, silver, and bronze medals and certificates only to first, second, third, and fourth-class work respectively, and to avoid ever awarding higher grade recognitions to lower grade works, simply because they may be by chance the best of an inferior class then displayed. Surely there is work, and desirable work too, for a governing society in these art directions.

And, last, we come to the social aspect as connected with photography. Is it no disgrace to the P.S.G.B., in their stagnated condition, that the Camera Club should have shown them such a successful career in united social organisation? A professional photographer, more than an amateur, requires the social element to be strongly in evidence at his place of meeting. When his professional daily duties are done, and the official share of his connection with photography is accomplished, he then wants a place to meet in and eat in, to read, to rest, to retire, and to generally feel that absence from restraint which constitutes the home-like element of club life. Surely it need not be considered that the only ambition photographers have is to thrash out ultra-scientific subjects during *all* of their spare time. This seems to be the impression of the managing body of the Photographic Society of Great Britain, notwithstanding the demonstration of the Camera Club to the contrary. Quoting my own case individually, and one can perhaps argue best from one's own feelings, I am very much interested in photography, and though I have been some ten years a member of the Photographic Society of Great Britain, and have during that time lived a good amount in London, yet I do not suppose I have attended half-a-dozen meetings altogether. On the other side, if a social home like the Camera Club existed with always open doors, I should feel it a positive incentive to my purposely running up to London just to avail myself of its privileges. I merely cite my feelings in this direction, as believing them to be symbolical of many others'.

What I *should* like to see come to pass would be for the Photo-

graphic Society of Great Britain to arouse itself from its present drone-like existence, to recover the active men whom it is so wantonly slaying itself by losing, and to join issues with the Camera Club as one great fraternal body.

Here there would be men, means, and money to carry out fully the projects I have roughly outlined. I suppose, however, that it is an idea of a too Utopian-like character to be attained; nevertheless, I am convinced that the time is propitious for founding such a national institution as I have suggested, by one way or another, if only leaders will work together, willing to bring it to a successful issue.

Exhibitions.

INTERNATIONAL PHOTOGRAPHIC EXHIBITION AT LEEDS.

(FIRST NOTICE.)

AFTER the great success of the recent exhibition at Glasgow it is not surprising that the active spirits in the Leeds Photographic Society should be tempted to follow so good an example. Evidently they have determined not to be behind in the race, and, backed up by the Mayor and the leading members of the Corporation, and particularly by the Fine Art Committee, their labours have resulted in a most striking exhibition, and every one who sees the fine collection of photographs brought together in the splendid suite of rooms connected with the Municipal Art Gallery is compelled to wish the undertaking a great financial success; the more so as any surplus will be devoted to the purchase of works of art to adorn the Fine Art Galleries.

The Fine Art Galleries would do honour to any town, and the Leeds Photographic Exhibition is fortunate to find such a home. This was most striking at the conversazione, when beautiful women and gay dresses adorned the scene. Tropical plants and bright carpets still further helped this scene, which was still more helped by the brilliant electric light which beamed forth everywhere. An admirable band performed at intervals in the court below. The Mayor opened the proceedings, and introduced Colonel T. W. Harding, who briefly referred to the distinguished place occupied by Leeds in the early history of photography, and introduced to the audience Mr. J. Gale, who delighted them with his beautiful series of slides entitled "Rambles in Search of the Picturesque, Rural and Pastoral." The lecture was divided into two parts, to enable some who could not get into the crowded room to have at least a share in the pleasure. This interval was filled up by an admirable selection from the band of the Leeds Rifles. After Mr. Gale's lecture the audience gradually thinned away slowly and reluctantly between 10 and 11 o'clock.

One of the most interesting features of this exhibition is a collection of photographic curiosities illustrating the early history of photography. The Leeds Photographic Society is specially fitted for this work, for the members proudly boast that their society is the oldest in the world. They have plenty of evidence to show that it was founded in 1852, and, certainly, if so, it is one year older than the Photographic Society of Great Britain, for in the year mentioned a few of the leading amateur photographers were busily engaged in trying to induce Fox Talbot to forego his patent rights, and it was only after the accomplishment of this that the first meetings were held at the Society of Arts with a view to the formation of a photographic society in London. They are justly proud of the fact that the Rev. J. B. Reid was a native of Leeds. As his connection with the early history of photography is not well known to the present generation, it will be instructive to say a few words here as to his early experiments. He discovered the development of the latent image in a curious way. The importance of organic matter in conjunction with chloride of silver for giving vigour as well as rapidity to printing-out processes was only just recognised, and he was engaged in printing on white kid leather, using his wife's discarded gloves for the purpose. His labours were interrupted by the tolling of the big bell of St. Paul's announcing the death of William the Fourth. He threw his experiment aside in his dark-room, as there was only the ghost of an image and he was eager to hear the news. When he next looked at the piece of leather he was delighted as well as surprised to find the image was fully brought out in the dark. Further experiment led him to attribute this unexpected result to the influence of tannin in the leather. This was in 1837, and Fox

Talbot's patent dealing with gallic acid for the development of the latent image was not till after 1839, for that was the date of his first patent, which did not include the use of gallic acid. Of course, it is not to be wondered at that the Leeds Photographic Society is proud of its connection with these slices of history.

On looking at the collections of former mayors of Leeds produced by the Daguerreotype process by Huggon, a well known Leeds photographer in the past, a great puzzle arises. If the process of Daguerre was only given to the world in 1839, how comes it that there are portraits of mayors whose reign of office ante-dates it by two years? For instance, Jas. Holdforth is dated 1838, and yet there is evidence that it is not a copy, but a veritable picture drawn from life. The same background of pillar, etc.—imitations of the backgrounds of Sir Thomas Lawrence and others—occurs in several of the pictures. Possibly he was mayor more than once, and that this was done during a later period of office.

Mr. J. W. Ramsden, who only now looks in his prime—and a grand prime it is—exhibits a series of pictures done before 1852 and exhibited in the first photographic exhibition, held in 1853.

There is also a negative calotype taken in 1847 with a spectacle glass fixed in a cigar box. History repeats itself: in the last year's exhibition in Pall Mall there were pictures taken with spectacle glasses, and the glasses put beside the pictures to show what they had done—but happily there was something better than a cigar box for the camera. Is it not wonderful how we are progressing backwards? A series of pictures were evidently published about this period by Ramsden and W. Teasdale, for they have a printed general title, "Sun-drawn Pictures." Many of these are most interesting. Further notice must wait till next week. The awards are as follows:

Open to Professionals Only.

Class 1, Portraits, whole-plate and over.—W. M. Warneuke, silver medal; W. W. Winter, bronze.

Class 2, Portraits, under whole-plate.—Harold Baker, silver; Jno. E. Shaw, bronze.

Class 3, Enlargement Portraits.—H. J. Van der Weyde, silver; Alexander Bros., bronze.

Class 4, Enlargement other than portraits.—F. W. Edwards, bronze.

Open to Amateurs Only.

Class 5, Portrait set.—Clarence B. Moore, bronze medal.

Class 6, Portraits, under whole-plate.—W. J. Jenkins, bronze.

Class 7, Portrait enlargement.—S. H. Barton, bronze.

Class 8, Enlargement, other than portrait.—J. W. Wade, silver.

Open to Professionals and Amateurs.

Class 9, Landscape, whole-plate and over.—John E. Austin, silver medal; J. E. Gibson and F. M. Sutcliffe, bronze; W. C. Beetham (two pictures), special silver.

Class 10, Landscape, under whole-plate.—Karl Greger, silver; P. Eomis, bronze.

Class 11, Marine and clouds.—F. M. Sutcliffe, silver; A. R. Dresser, bronze.

Class 12, Animal studies.—Karl Greger, silver; Jean Halle, bronze.

Class 13, Outdoor groups.—Karl Greger, silver; F. M. Sutcliffe, bronze.

Class 14, Architectural, interior and exterior (whole-plate and over).—F. W. Edwards, silver; C. Court Cole, bronze.

Class 15, Architecture, interior and exterior (under whole-plate).—Wm. Denham, bronze.

Class 17, Flash Light.—John Stuart, silver.

Class 18, Instantaneous, general subjects.—Lyddell Sawyer, bronze.

Class 19, Instantaneous, yachts in motion.—Sweet and Kinlock, and W. C. Beetham, bronze.

Class 20.—Instantaneous (Sea and Marine) W. D. Welford, J. M. Nicholson, and Percy Lewis, bronze.

Class 21, Instantaneous, other than seaside and marine.—Major Lysaght, bronze.

Class 22, Genre.—C. Smerdon Roe, silver; Lyddell Sawyer and Adam Diston, bronze.

Class 23, Microscopic.—R. Kidston, bronze.

Class 25, Scientific.—Cecil V. Shadbolt, bronze.

Class 26, Transparencies.—F. W. Edwards, silver; J. W. Wade, bronze.

Class 27, Lantern slides (amateur).—J. E. Austin, silver; W. Taverner and B. G. Wilkinson, bronze.

Lantern Slides (professional).—G. West and Sons, silver; G. E. Thompson, bronze.

Photo-Mechanical.

Class 28, Photogravure, line subjects.—W. L. Colls, bronze medal.

Class 29, Photogravure, half-line subjects.—The Autotype Company, silver; T. and R. Annan and Sons, bronze.

Class 31, Type-high process.—R. Gardner and Company, silver.

Class 34 Woodburytype.—Waterlow and Sons (Limited), bronze; S. B. Bolas and Company, bronze.

Class 37, Photo-chromograph.—Waterlow and Sons (Limited), silver; Photochrome Engraving Company, bronze.

Champion Class.

Wm. Crooke, gold.

Special gold medal to H. J. Van der Weyde, for the *Misère Dene*.

Special silver medal to Prince Ruffo, for two heads.

Special commendation to the Leeds Photographic Society for lantern slide exhibits.

LEEDS PHOTOGRAPHIC SOCIETY.

In addition to the medals offered by the Fine Art Gallery Committee, the Committee of the Leeds Photographic Society have offered special medals for competition among its own members, which have been awarded as follows:—

Lantern Slides.—Godfrey Bingley, bronze medal; Herbert Denison, bronze.

Landscape, Set.—Godfrey Bingley, bronze; Baddgelert, Godfrey Bingley, silver.

Figure.—William Wright, bronze.

Architecture.—Wm. Denham, bronze.

Instantaneous.—A. A. Pearson, bronze.

Enlargements.—S. A. Warburton, bronze.

Special bronze medal to C. E. Spencer, for portraits.

TUNBRIDGE WELLS PHOTOGRAPHIC EXHIBITION.

We alluded briefly to this exhibition in "Our Views" last week and will comment upon a few of the photographs sent in, confining ourselves principally to the prize pictures.

Taking the members' work, first, in Class I., Architecture, the first prize, a silver medal, was awarded to Mr. F. G. Smart for some very careful work, the particular photograph being "Nave of Salisbury Cathedral." The point of view has been selected with care, and the technical work is perfect. Mr. H. C. Landor took the bronze medal for another view, "Interior of Salisbury Cathedral." He entered for competition a very interesting and well-rendered series of views of the Cathedral, including "The Triforium," "North Transepts," and "Cloisters;" also other photographs taken at Salisbury. Mr. A. W. Pierson had three well-chosen pictures. Mr. W. E. Brampton, who, for general excellence, was awarded the AMATEUR PHOTOGRAPHER Silver Medal, showed good work in this class. Mr. J. W. Morgan had some good work in Kentish houses.

In Class II., Architecture, the silver medal was withheld, and the bronze awarded to Mr. Joseph Chamberlain for photographs of "A Drawing Room," in which great care has been taken in lighting a rather difficult interior.

Class III., Landscape, was a large class, over one hundred pictures being entered. Of these the work of Mr. Smart again takes premier position and the silver medal for a charming view, "Near Dorking." We were charmed with three views "On the Camerton Canal," all of which are careful compositions, and prove Mr. Smart to have an artist's love for the beautiful. In this class Mr. E. R. Ashton shows good work and which with his exhibit in Class IV., Instantaneous Work, was awarded Sir David Salomon's medal for the general excellence of his photographs; the two views "On the Broads," "The Medway, at Maidstone," and "Scotney Castle," are the best of his collection. Mr. B. Whitrow takes the AMATEUR PHOTOGRAPHER Bronze Medal for his exhibit, the judges calling special attention to "The Wyke." Mr. W. S. Putland is a persevering worker, and his views in Kent and Sussex are all well chosen. Mr. A. W. Pierson's views "On the Medway" and "Maidstone" are of good standard merit.

Mr. D. Howard's four photographs in bromide are well chosen, and show much care in printing, the uniformity of tone being very marked.

"Instantaneous," Class IV.: Certainly the best photographs

in this class are those by Mr. Ashton, the recipient of the Salomons medal, views taken at a "Bull Fight," a scene in the "Market Place, Tangier," and "A Caravan." Mr. Smart has some good pictures, and takes a bronze medal for "Swans at Weymouth;" other photographs which demanded special notice were those by Mr. A. Cornall, Mr. J. W. Morgan, and Mr. Cassingham.

In Class V., Genre, only the silver medal was awarded, and that went to Mr. Chamberlain for his photographs "Hiring a Donkey for the Pyramids," "In a Bazaar," and "The Merry Little Drummers," of scenes in Cairo. Other good work is shown by Mr. W. S. Putland and Mr. W. E. Brampton.

The Lantern Slides: The silver medal was awarded to Mr. J. W. Morgan for a very well-executed series of six slides. In Transparencies, Mr. J. Chamberlain takes the silver medal for "Backsheesh Groups," and Mr. Smart a bronze medal for "Views on the Camerton Canal." These transparencies are worked with much effect into a stained-glass window screen. The other classes open to members were Class VIII., for the best Photographs of Trees without Leaves, in which the work of Mr. A. W. Pierson was awarded the special prize offered. In Class IX., Scientific, there was only one entry, Mr. Chamberlain contributing photographs of "The Night-blooming Cereus," "Stanhopea Occulata," "Foxgloves," and "Gloxinias." No award was made.

The awards in the open classes have been published, and we regret that the calls upon our space will not permit us to give any comments upon them. The exhibition was well attended, and must be counted a great success, much credit being due to the executive committee and all concerned.

Reviews.

The British Journal Photographic Almanac, 1892. Edited by J. Traill Taylor. London: Greenwood and Co., 2, York Street, Covent Garden, W.C.

Parodying Tennyson, we may say "Almanacs may come, and almanacs may go, but the *British Journal 'Almanac'* goes on (increasing) for ever." This year it contains 1,168 pages, and you can get all this for one shilling, or of many traders for less. We must candidly admit that to us its greatest use is as a collection of trade catalogues, one firm having no less than sixty-four pages, something more than a *seventeenth* of the whole book. In the letterpress there is much that is interesting and instructive, but of a very disconnected character. Opening the book at random we find "A Beginner's Difficulties," by H. Brocklehurst, and "New Effects in Backgrounds," by J. Wallace Bennett. Both these gentlemen may be authorities upon the special subjects that they have written upon, but they are unknown to us. We note that amongst the contributors are many well known writers, but their articles have no connection, and frequently appear to be written because they must send something to the *Journal Almanac*. We should have thought that with such a handsome revenue from advertisements the proprietors might pay contributors to write articles which should have a direct teaching value as well as being a record of the year by many hands. The "Epitome of Progress" by the Editor covers a good many items that have appeared in the columns of the *British Journal of Photography*, but surely the "Primuline Printing Process" had its place in last year's "Epitome of Progress." A very admirable series of articles on "The Elements of Practical Photography" are well written and instructive. The list of photographic societies is fairly accurate, and the illustration-portrait of the German Emperor, from a negative by Russell and Sons printed on argentic gelatino-bromide paper by Messrs. Morgan and Kidd, is a splendid piece of work.

Mr. Traill Taylor is to be congratulated on his work on the "Annual," and so are the printers and publishers for the admirable manner in which the book is turned out.

The Studio, and What to Do in it. By H. P. Robinson. London: Piper and Carter, 5, Fumival Street, Holborn, E.C. 2s. 6d., by post 2s. 8d.

All books by Mr. Robinson are eagerly read, and we are quite certain the one now under notice will be no exception to the general rule. Because some parts of the book originally appeared in the columns of the *Photographic News*, it does not, in our opinion, detract from the book. Mr. Robinson is a teacher, and

in "The Studio, and What to Do in it" he gives sound and practical knowledge, first how to build and arrange the studio, and then how to light the sitter, posing, and the management of the sitter, divided into: The head—The head vignette—The three-quarter-length men—The three-quarter-length women—Full length figures—Groups, etc. Many other sections of studio work are dealt with, and any of our readers who contemplate taking up home portraiture should lose no time in purchasing a copy.

Praktisches Taschenbuch der Photographie, by Dr. E. Vogel. Published by Rob. Oppenheim (Gustav Schmidt), Berlin S.W., 46. Price 2s. 6d.

It is by no means an easy task to compress into 190 pages a sketch of all the photographic processes, but Dr. E. Vogel has done his best, and although we may be inclined to find fault at the distribution of space to the different processes, this little work will fill the purpose for which it is intended.

Die Elemente der Photographischen Optik. By Dr. Hugo Schroeder. Published by Rob. Oppenheim (Gustav Schmidt), Berlin S.W., 46. Price 6s.

From Dr. Schroeder, the head of the technical department of Messrs. Ross and Co.'s lens factory, it was only to be expected we should receive a valuable and practical addition to the literature of photographic optics, but we take strong exception to the statement that this work is a popular exposition of the subject. After careful perusal, we must confess Dr. Schroeder's work will be of great benefit to the practical optician and the more advanced photographic scientists, but to the bulk of the photographic world it is far too deep and technical. It would be impossible in such a brief note as this to point out all the excellencies of the work, which is certainly written from the very latest scientific standpoint; but by no means the least valuable and interesting part of it is the list of optical literature. The book is illustrated by numerous figures and diagrams, and has an exhaustive description of the various methods of testing lenses.

Apparatus.

BLISSETT'S MAGNESIUM HAND-LAMP.

MR. W. C. BLISSETT, of Wallington Corner, Wallington, Surrey, has forwarded for our inspection one of his magnesium hand-lamps, which can be held and worked with one hand. The lamp consists of a wooden handle provided with a reflector, with a small aperture, through which the magnesium ribbon is fed by the finger, and issuing through which hole it comes into contact with the flame of a small spirit lamp, and is kept evenly burning. We have tried the lamp for making lantern slides by reduction in the camera, and, as suggested by the inventor, for showing slides in the lantern, and find it easy and convenient to work, and quite precludes the chance of burning one's fingers, and at the low price of 2s., post free, it should find many purchasers.

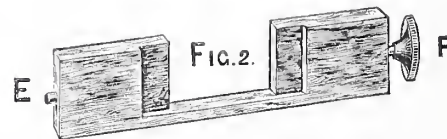
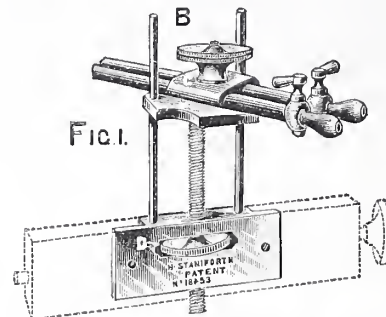
RODINAL—A ONE-SOLUTION DEVELOPER.

Under the above name Die Actiengesellschaft für Anilin-Fabrikation, of Berlin, have introduced a one-solution developer, invented by Dr. M. Andresen, the reducing agent being paramidophenol. We have tried the developer, and find it very convenient and cheap, and allowing considerable alteration of the results by modification of the proportion of water. The developer is placed on the market in amber-tinted bottles with india-rubber corks, in the following sizes and prices: $\frac{1}{10}$ litre (= 3 $\frac{1}{2}$ oz. Eng.) 1s. 6d.; $\frac{1}{4}$ litre (= 8 $\frac{3}{4}$ oz. Eng.) 3s.; and $\frac{1}{2}$ litre (= 17 $\frac{1}{2}$ oz. Eng.) 5s. For ordinary negative work the solution is diluted with thirty times the quantity of water; for bromide paper and lantern slides with from one hundred to one hundred and fifty times the quantity of water. For under exposure it is advisable to dilute with from forty to fifty parts of water and allow the developer plenty of time to act; for over-exposure, bromide may be added or an old once-used developer employed. Testing it against quinol and eikonogen, it gives equal, if not superior, results, and it certainly seems easier to control results than with quinol. The image is of a good blueish black, and the detail and gradation are also good. We have found that it is necessary to carry the density considerably further than usual, as there is considerable loss in the fixing-bath, which should always be the acid hypo. Our

lady readers and others who do not like stained negatives and stained fingers will certainly appreciate this new developer, as we have been unable to obtain stains with it. The sole agents are Messrs. R. W. Greeff and Co., 29, Mincing Lane, E.C., who only supply wholesale.

STANFORTH'S PATENT JET HOLDER AND REGULATOR.

Now that the lantern season has come upon us, lanternists will be getting out their apparatus to see that it is in good order, and the sight of the jet will call to mind all the trouble they have experienced on previous occasions in regulating it at the right distance from the lime, and, above all, centering it. We all know how, when we have a beautifully clear disc on the screen, directly we begin to screw up the thumb-screw to fix it, the jet will persist in wobbling all over the place, and much time is lost and bad language used before a satisfactory disc is finally obtained. Mr. H. Stanforth, one of the members of the committee of the Sheffield and District Optical Lantern Society, has patented a jet holder and regulator which reduces the trouble of centering to a minimum and makes it a pleasure, rather than otherwise, to do. The jet holder is shown in fig. 1, and, as will be seen, it is a very



simple arrangement without any complicated or delicate mechanism. Fig. 2 shows an appliance by which it can be attached to the ordinary lantern. This arrangement will be found useful in those lanterns which may sometimes have to be used with oil. The mode of attaching to the backs of the lantern is very simple, and the lanternist with a gimlet can adapt it himself. The piece of wood is made to fit just inside the back of the lantern, and all that is necessary is to bore a hole in one side for the peg E, to take out the screw F, and put that through another hole bored on the opposite side of the lantern. To adjust the jet (fig. 1) the screw B or the clamp C are taken off, the jet rested on the platform, one tube on either side of the screw; the clamp C, which is grooved to give a firmer hold, is then put on and fastened in any desired position by the screw B. To raise or lower the jet, the nut D, at the bottom, is worked, and the thread on the vertical screw being fine, great delicacy of adjustment is secured. The ordinary jet can be used with this apparatus. We have used one of these holders for some time and have been delighted with it; trouble is reduced to a minimum, and any alteration of the light can be made while the picture is on the screen, the screws being so arranged that they do not have a tendency to move the jet on being screwed up. We can cordially advise every lanternist to have the attachment, especially as the price is so reasonable, only ten shillings. Mr. Stanforth's address is 62, Fitzwilliam Street, Sheffield.

Lantern Jets.—Mr. H. N. Houghton writes:—"I venture to think that the Secretary of the Douglas Society has misinterpreted Mr. Chadwick, when he says that the blow-through jet is the only one to employ. I think Mr. Chadwick, in common with most people, would unhesitatingly use the mixed jet, but with cylinders only."

Postal Club.—Mr. R. M. Worden, of 14, St. Ignatius Square, Preston, writes:—"I beg to ask permission to announce through your paper, that we have a few vacancies in our Postal Photographic Album Club. I shall be happy to give particulars to anyone desirous of joining."

Luminous Paint.—Mr. Geo. Pirie writes: "In your reply to W. H. Warton on page 424 of the AMATEUR PHOTOGRAPHER you state that you will try to find out where luminous paint may be bought. If information from me be acceptable, I may state that Mr. W. C. Horne, 6, Dowgate Hill, London, E.C., is agent for a certain make of luminous paint which has won sixteen medals of merit."

"Amateur Photographer" Monday Evenings.

ON Monday, the 7th inst., there was a good attendance at the offices of the AMATEUR PHOTOGRAPHER, to hear the lecture upon "Flash Light," by Dr. J. J. Acworth, F.I.C., F.C.S. Mr. Charles W. Hastings, in introducing Dr. Acworth, referred to the advances made within the last few years in flashlight photography, and said that although at present there was but little practical work done in this country by means of the flash light, they would doubtless hear from Dr. Acworth what had been done in other countries, and see specimen photographs which would go far to convince them of the practicability of flashlight photography.

Dr. Acworth then proceeded, and said:—

"Until recent years magnesium was to be had practically in one form only as far as photographic purposes are concerned—that is as ribbon. As most of you know, it was even in this form somewhat largely employed, in spite of a price per ounce six times what it is to-day.

"Burning magnesium ribbon nearly approaches the electric arc light in chemical effect upon photographic dry-plates and papers, for its light value may range from 1,000 to 2,000 candles, whilst the electric arc light taken generally does not often exceed 3,000 to 4,000 candles. Now, 1,000 to 2,000 candles is really a very small light source to enable one to take a portrait by. The consequence is that many seconds are necessary, and the result which but too frequently occurs is that the sitter moves during the exposure, or more generally a strained or scared expression results. But I need not dwell further on magnesium in the form of ribbon—it is magnesium powder that forms the subject of my lecture this evening.

"It was about May 1887, some four and a half years ago, that Drs. Gaedicke and Miethe first startled the photographic world with the possibilities of magnesium rapidly burnt in the form of powder. To do this they mixed the magnesium powder with various oxidising bodies, such as potassium chlorate or nitrate, and although the results desired could be obtained yet it was soon found that most of the mixtures were far from safe, for many serious and some even fatal accidents occurred. Dr. Piffard, of New York, was the first to effect what I may perhaps call an improvement; he used gun-cotton, and placed the magnesium on the cotton. As soon as the gun-cotton exploded, it at once caused the ignition of the magnesium powder. By this method the objectional fumes caused by oxidising bodies are done away with, and as both magnesium and gun-cotton can be kept separate till required for use it is much safer, and the results are about as good.

"Later on came a further improvement, and my friend Professor Schirm, of Berlin, was one of the very earliest pioneers of the method and that was to burn magnesium by causing it to be blown rapidly through a flame, spirit flame, gas, or otherwise, as I will show you, and all subsequent improvements are but little more than modifications of this method.

"Now a few words on what flash light can do. It was about eighteen months ago that I first learnt in Berlin that the flash light was a practical thing and it would have a big future. I then had the pleasure of an introduction to Professor Schirm, of that city. Professor Schirm is a talented artist, but that does not prevent him being an able experimentalist. Among his other achievements he has fitted up a studio for taking portraits entirely by flash light.

"Professor Schirm's shop is not at the top of five or six storeys, but is on the ground floor; in fact, an ordinary dwelling room of good size. There he constantly takes portraits that could not be excelled either for excellence of gradation or general effect. Professor Schirm is not the only one in Germany, who takes pictures regularly by flash light, any time, night or day, for others have followed suit; some work exclusively with magnesium light, and the remainder use it as an adjunct to get negatives either at night time or during dull days, thus making them practically independent of daylight. The only wonder to me is that with such a changeable climate as ours, with scarcely two days alike, flashlight has not become the general thing, the lamps are at once so easy to manipulate and the results so certain. Professor Schirm remarked to me, 'You cannot under or over expose, nor can you with properly constructed lamps which give the same value of light each time.'

"As regards what can be done by flashlight photography Professor Schirm tells me that Herr von Dilden, of Breslau, at-

tended a fancy dress ball, and during the hours of two to five a.m. took forty negatives of groups and single pictures, and obtained forty perfectly exposed negatives in fact, such a record as could seldom be obtained during daytime, and certainly never beaten.

"Professor Schirm, however, exceeded the feat, for at a fancy dress ball in Berlin he took during the night no less than 218 pictures.

"Now, as regards the duration of the flash, it is very short, usually not more than 1-20th of a second, but the value of the light in candle-power, photographically, is enormous, and may be said to vary from about 25,000 to 500,000 or more candles; in fact, we can really hardly appreciate what a marvellously powerful light it is.

"The quantity of magnesium powder used should be very small; for most lamps half a grain is quite sufficient, and as so little can be used, thereby avoiding smoke, it becomes very economical, and we shall find that if we work it out, each flash will cost about 1-40th of a penny, or ten flashes for a farthing. A good light in the studio is reckoned at 50,000 to 100,000 candles, whilst vertical sunlight may roughly be estimated at say 100,000 to half a million candles or more, so that we clearly see that magnesium flash light rivals, and in fact easily exceeds, that of sunlight itself."

During the lecture Dr. Acworth showed many forms of lamps. The very earliest, by Dr. Gaedicke, created much interest. In this lamp gun-cotton and magnesium powder were ignited by means of a slow match. A specimen of this lamp was sent to the lecturer specially for the exhibition. Three of Professor Schirm's lamps were shown. The one which gave the best flash with the least consumption of magnesium powder has two chambers containing wool saturated with benzine or benzoline. From one chamber a small tube acts as a pilot light, the other is attached to a pneumatic ball and a hopper containing the magnesium powder. The action of the pneumatic ball is to send a current of air through the chamber charged with benzine, and also to carry the powder to the point of ignition—the pilot light. Dr. Acworth has personally done much work with this lamp. Several other lamps of foreign manufacture were shown. The lamps by English makers were the Hastings' flash, Vøvers', Hudson's time exposure magnesium lamp, the Koln, Hibberd's, and a very well-made little lamp by Perken, Son, and Rayment. The first two consisted of a glass tube, which is charged with magnesium powder; attached to it is a piece of gauze saturated with methylated spirit. The flash is induced by means of a pneumatic ball or tube with mouthpiece. The Koln is of a more elaborate character, and with it a flash of any duration can be given; the magnesium powder being injected by means of a spray bellows through the flame of a spirit lamp. The drawback to the lamp is the price at which it is now sold—some three guineas, we believe. The lamp by Messrs. Perken, Son, and Rayment is very simple, and consists of a small spirit lamp, a hopper for the powder, a tube which receives the charge, and the usual attachment of pneumatic ball and tube; the flashes given by this lamp were very brilliant. The Hibberd lamp, sold by the Fry Manufacturing Company, was practically explained by a visitor, and the flash was brilliant and of a good shape.

No actual photography was attempted. Specimens of photographs taken at a fancy dress ball, portraits and photographs of the actual flashes, etc., were shown.

Mr. Hastings proposed a hearty vote of thanks to Dr. Acworth for his able lecture, which was seconded and, of course, carried by acclamation.

Announcement was then made that for the present the AMATEUR PHOTOGRAPHER's "Monday Evenings" would be postponed. Mr. Hastings said it was hoped that it might have been possible to have held an exhibition of hand-cameras, but in going further into the matter it was found that the space at disposal was much too limited for a thoroughly representative exhibition.

Mr. Rafarel (of the Holborn Camera Club), in a very flattering speech, thanked Mr. Hastings for the enterprise shown by the AMATEUR PHOTOGRAPHER in arranging for the "Monday Evenings;" he also humorously related his experiences in attending the former lectures, and said that it was the first time he had been able to get *inside* the room. Future arrangements will be announced in due course.

Postal Clubs.—Will secretaries of any Postal Club Albums be good enough to send me a copy of the rules of their club.—E. J. Bedford, Hon. Sec., Lewes Photographic Society.

Notes from the Edinburgh Centre.

(By OUR DISTRICT EDITOR.)

THE members of the Edinburgh Photographic Society met under the presidency of Mr. H. J. Blanc, on the evening of Monday 2nd inst. A very important item of business before the meeting was the presentation of the medals which the Society offered for competition during the summer, but the Chairman intimated that, on account of the Secretary, Mr. T. Barclay, being laid up with influenza, the medals were unfortunately not ready. He, however, announced that the silver medal which he had presented had been awarded, in accordance with the votes of the members, to Mr. Jas. Patrick, Comiston Road, Edinburgh, for the best picture taken at one of the Saturday rambles which were held under the auspices of the Society; that the silver medal for the best picture from a negative taken since 1st January had been awarded to Mr. Jas. G. Patterson, Eskbank, Dalkeith; and that the silver medal for the best figure subject (not a portrait) from a negative taken since 1st January, had been awarded to Mr. J. Stewart Smith, George Street, Edinburgh. Mr. Patrick is the only professional of the three. The Chairman expressed the pleasure he had in announcing that Mr. Patrick had been successful, and with regard to Mr. Stewart Smith he said he was a very old worker who had produced much excellent work. Unfortunately, in the absence of the Secretary, he was unable to say what the pictures were for which the awards had been given.

Mr. Oliphant then introduced the Universal Adapter, and explained its working. A specimen was handed round, and the members seemed to agree with Mr. Oliphant that the apparatus was not of much value, on account of its weight and of the fact that it possessed no means of preventing the lens turning round. Mr. Hugh Brebner, the Curator of the Society, made a communication on "The Value of the Evidence Afforded by the Galvanometer as to the Nature of Photographic Action." Mr. Brebner began with an apology, a practice which deserves the severest condemnation. He had an elaborate apparatus ready to show the working of the galvanometer, but it could not be worked because of the agitation of the platform, and when he came to the point of showing the reversing effect, the apparatus would not work. At that stage, to give time for the apparatus to get into order, other business was taken up, and when it was completed, the time of the meeting was up, and members had to go away without learning what Mr. Brebner wished to bring out, having only a vague notion that he wished to illustrate that electrical action had something to do with halation. Dr. Drinkwater, a Vice-President of the Society, said he had experimented on the same subject, and he came to the conclusion that while there was electrical action he was not satisfied as to whether the electrical action was the cause of the phenomena or was the result. A vote of thanks was, however, on the motion of the Chairman, accorded to Mr. Brebner.

The most important business, however, which was before the meeting was a notice of motion by Dr. Drinkwater, to the effect that it was expedient to procure premises or club-rooms, and that a committee should be appointed to complete the arrangements. This was hailed with satisfaction by the members, and the Chairman, who said it had often been spoken of, cordially approved of it. It is to be hoped that the committee to whom the matter may be entrusted will not confine their efforts to the providing of rooms for the Edinburgh Photographic Society merely, but will endeavour to establish an institution which will be a home for photography in Scotland. What I would suggest would be a set of club-rooms in the name of the Society, with a meeting place, where the different societies in the city could hold their meetings, without, however, any of the advantages of the club proper, and where, of course, there should be dark-rooms for the use of members, but no studio, as it might be taken advantage of by amateurs to make a profit by photographing their friends, to the prejudice of the professional. If such an institution could be established, a very important feature of it should be a purely Amateur Photographic Society, which might be a flourishing body under the auspices of the parent society. In that event the existing Edinburgh Photographic Club might go out of existence. It was started to be a feeder (of subjects) to the Edinburgh Photographic Society, but it has proved the opposite. Membership in it is confined to the Society, and its effect has been that all the cognoscenti have sought admission to its ranks, with the result that discussions which are of importance all take

place at its meetings, and the Society's meetings are merely a hash-up, or reiteration by those who were at the Club meetings, of what took place there; outsiders—that is, the ordinary information-seeking members of the Society—having no chance with those who have been already over the ground. If the Society were also the Club, and had an Amateur Society under it, this disadvantage would be avoided. Besides, the Amateur Society would do good work among amateurs, who, for the reasons above stated, do not feel at home, unless they be very forward both in knowledge and in power of expression, in the Society's meetings as at present conducted. Some such arrangement as I have mapped out could be easily worked, and might lead to the re-establishment, in something of its former position, of the Edinburgh School of Photography. There is plenty of photographic talent in Edinburgh and in Scotland to support a prosperous institution of the kind. It might have been in existence before now but for the strength of the Edinburgh Society, which made it difficult to start anything of the kind, and for the fact that the Edinburgh Society has for a number of years been inclined to rest on its laurels, and has altogether ignored the advances which have been made in the social side of the photographic world. However, better late than never, and it is to be hoped that now the subject is brought forward, an earnest and a successful effort may be made to recover lost ground, and to place photography in Edinburgh on a satisfactory footing before the Convention meets here next summer.

Societies' Meetings.

Bolton.—An open meeting was held at the Co-operative Hall on the 4th inst., when a collection of prize slides were exhibited to a large and appreciative audience. On the Tuesday previous, the Hon. Secretary read his paper upon "The Photographic Survey of Bolton," and enlisted eighteen members in his favour. Work has already been begun.

Bristol Camera Society.—A meeting was held on the 4th inst., Mr. Taylor Genge occupying the chair. The subject for the evening was a demonstration of lantern slide making, by Mr. M. C. Dunscombe. After briefly referring to the "Griffiths" lantern camera, Mr. Dunscombe proceeded to describe the method of making lantern slides by contact. A negative on a flexible celluloid film was used, and Mr. Dunscombe first showed how, by the use of a preparation, which he termed B solution, to obtain exceedingly rich colours on the slides. By mixing a proportion of this solution with an ordinary developer, and using England's lantern plate, he obtained a variety of colours of great brilliancy, which it is impossible to get by the usual methods. A lantern slide was then made in the ordinary way, and Mr. Dunscombe, by the aid of a limelight projecting lantern showed on a screen each of the slides that had been made, which enabled the members to compare the various tones obtained. This finishing the business of the evening, a number of slides made by the members were passed through the lantern. The next meeting will be held on the 18th inst., when Mr. Taylor Genge will describe the process of "Printing on No. 2 Kallitype Paper."

Brixton and Clapham—A reception will be held on Saturday, the 12th inst. (7.30 to 10) to inaugurate the opening of the new quarters at the Clarence Rooms, 376, Cold Harbour Lane, Brixton, to which any ladies or gentlemen interested in photography are cordially invited. Mr. Charles W. Hastings has kindly consented to show and describe the AMATEUR PHOTOGRAPHER 1891 Prize Lantern Slides.

Camera Club.—On Nov. 30th Mr. Frank Haes exhibited his slides illustrating what was done in animal photography in the days of wet collodion. The slides were from negatives made twenty-seven years ago, and the excellence of the representations met with and deserved both surprise and admiration. After Mr. Haes' pictures, other slides were shown by Messrs. Davis, Hughes, Bolton, Burchett, Greene, Budger, Walker, Laurie, and Major Becher. On Thursday, the 3rd inst., Mr. Dresser read a paper on "Toning Rough Bromide Paper and Transparencies." Mr. Francis Cobb occupied the chair. Mr. Dresser gave different formulæ for mercurial and for uranium toning, referring to a large number of his own examples which were arranged on the Club walls. Mr. Dresser being compelled to leave early, Mr. Herbert Fry kindly gave a demonstration of the toning process, and Mr. Weir Brown added much information and showed some instructive illustrations. On Thursday, December 17th, Mr. Leon Warnerke will give a description and demonstration of his "Simplified Collographic Process."

Cardiff.—At the weekly meeting of this society, on the 4th inst., slides were shown of views of the Yosemite Valley, sent by the California Camera Club. The gigantic trees, huge mountains, rugged canons,

and stupendous waterfalls for which the valley is famous the world over, were depicted with the picturesque fidelity of detail and fine general effect which characterise good photographic work. The meeting proved highly interesting and enjoyable.

Coventry and Midland.—At a meeting held on the 2nd inst. Mr. A. J. Leeson demonstrated the working of the ammonia nitrate of silver printing process on plain paper. Mr. Leeson said that not only paper, but silk, wood, etc., could be sensitised and printed on in the same way. The demonstration was one of the most interesting and instructive the society has ever held, taking the audience through the whole process, the Whatman rough drawing paper being used. The paper, after being cut to sizes required, was salted in a bath of gelatine and chloride of ammonia, dried and sensitised in an ammonia and nitrate of silver bath, showing the making of each bath before using them. Several prints were then toned, and a beautiful warm sepia tone was obtained in forty-five seconds, a little darker one minute, and others still darker about two minutes. A very fine collection of most beautiful prints were handed round for inspection showing the results obtained.

Croydon Camera Club.—Ordinary fortnightly meeting December 7th. The customary routine business having been transacted, and a vote of thanks passed to Mr. G. R. White for his services rendered on the 30th, when the AMATEUR PHOTOGRAPHER Prize Slides were shown, the President vacated the chair, which was then taken by Mr. A. J. Sargeant, and Mr. H. Maclean proceeded to read his paper, entitled, "The Open, Sesame, of Successful Photography," the object of which was to show the advantage which follows the acquisition of art knowledge by the amateur, and also to indicate how to set about getting this "Open, Sesame." Some criticism of the obscure school of photography concluded the paper. In the remarks which followed, Mr. Charles Hussey generally endorsed most of the arguments of the lecturer, and illustrated several of the points from his own experiences; he also added that he considered if Mr. Maclean's paper were published, not only the Croydon but every other society in the kingdom would be indebted to him for giving such prominence to the urgent necessity of art culture to the ordinary amateur. Mr. H. Maurice Page also gave the paper his approval, and in furtherance of the ideas set forth in it offered to conduct an excursion of members into the country and lecture on art as applied to landscapes in the presence of nature. The customary vote of thanks was proposed by Mr. Sargeant and seconded by Mr. Neeves. The attendance was just over twenty, which clearly indicates that to the majority Art is a neglectable quantity, and therefore that such lectures as the above are in the highest degree necessary. It is only by keeping on "pegging away" that the rank and file will be induced to seriously cultivate the sense of abstract beauty, and learn how they may express it in their work. Mr. Bishop showed the "Anschutz Taehyscope," which proved to be an interesting application of the photography of moving figures. A special meeting of members will be held at 8 o'clock on December 15th, at 53, Birdhurst Rise, by invitation of Mr. Charles Hussey, to inspect his collection of celebrated photographs by various masters. All members will be cordially welcomed.

Croydon Micro.—An ordinary meeting was held on the 1st inst., Mr. Edward Lovett, President, in the chair. Mr. Lovett read a letter received from the Photographic Society of Great Britain, relating to the affiliation scheme, and after due consideration it was thought desirable to defer it to the next meeting, when the members would then be able to express a more decided opinion on the subject. Mr. J. Lewis, of Birmingham, then demonstrated the "Kallitype Process." Mr. Lewis, in a short and lucid way, described the old method of working the Kallitype No. 1, and set forth the disadvantages that it had with regard to the manipulation and otherwise marred the popularity that it might have claimed. He then explained the improved Kallitype process No. 2, when all these disadvantages were done away with, and now the process could be worked with nicety and exactness. He developed several matt-surface and albumen prints, and the examples that were shown to those present were very fine and would compete most favourably with the finest platinotype or bromide prints, and were everything that could be desired. Next Friday, December 11th, will be a lantern night for members' slides.

Devon and Cornwall.—This club held a meeting on Nov. 30th at its rooms, the Athenæum, Plymouth. There was a good attendance of members and friends to witness an exhibition of lantern slides taken in Brittany by Mr. A. R. Dresser. Mr. Dresser is a well-known photographer and a champion of hand-camera work, but not content with merely upholding the merits of the hand-camera, he also gives practical proof of the excellence of the results obtainable by these instruments. This year's series of slides were taken in Brittany, and cover a large variety of subjects. Architectural, including church interiors and exteriors, cathedrals, calvaries, and old domestic architecture, figure subjects, street scenes, market scenes, costume studies, landscapes and pure seascapes—nothing seems to escape the hand-camera, from the breaking wave to an

unruly pig. No lecture accompanies the slides, but Mr. Wilson Serpell, who has but recently returned from a holiday in Brittany, gave a short account of some of the subjects shown on the screen.

Finsbury.—On the 1st inst. an ordinary general meeting was held at the Finsbury Technical College. The Secretary read a paper on "Art Photography." He first showed that a photograph could be a work and of art as much as a painting, "but that, for want of combination, composition, and above all for want of a human mind and soul acting on the materials, in nine cases out of ten it is not a picture." He then explained briefly the laws of composition, illustrating them by a number of Mr. H. P. Robinson's pictures.

Holborn Camera Club.—A meeting was held on the 4th inst., Mr. Herbert Thompson in the chair. Messrs. Daw and Gunn were elected members. Mr. F. J. Cobb then opened a discussion on "Enlarging." He thought that the reason why so few amateurs had taken up with enlarging was because they thought it required expensive apparatus. All the enlarging he had done was by means of apparatus costing, not four or five guineas, but four or five shillings. When he first started enlarging, about three or four years ago, he knew next to nothing about the subject, and he had to gain his knowledge by experience. His apparatus consisted of an old camera, to which he had fixed a base-board with an easel at the other end, the negative to be enlarged being placed in the dark slide of the camera. He covered the apparatus up by means of a hood, and exposed with magnesium ribbon. The distance of the light from the negative would depend on the density of the negative. He had a silver print by his side while exposing, so as to tell which part of the negative would require most light, and which required shading. That was one of the chief difficulties. The negative itself should be thin. He first used a portrait lens, but could not make it answer, and he finally used a single lens. He used the ferrous oxalate developer. He had tried hydroquinone, but he did not like it so well. When he first started he always obtained very black and white results, instead of the grey tones which he wished to obtain. He now left out the bromide of potassium, using Eastman's paper, and obtained the desired results. In conclusion he advised beginners to stick to the same negative until they obtained a good print. They would by that means know what to do with the next negative to be enlarged. Mr. E. H. Bayston gave a description of the method of daylight enlarging. Mr. E. Benest said he did not recommend anyone to use the iron developer, because of the great difficulty of getting rid of the iron in the paper, which if left in the print would cause it to fade. He had tested prints which had been developed by the iron developer and had been through three separate clearing baths and well washed, and found iron still existed in the paper. Messrs. Brocas and Golding and other members also took part in the discussion. To-night (Friday) Mr. A. G. Golding on "Composition." On Monday, at Bloomsbury Hall, Hart Street, Bloomsbury Square, Mr. Charles W. Hastings will show the AMATEUR PHOTOGRAPHER 1891 Prize Slides at a special meeting of members of the club and their friends.

Lewes.—An ordinary meeting was held on the 1st inst., the President in the chair. He said he was sorry to have to announce the death of Mr. S. Miller, a member of the Committee, and the Hon. Secretary was requested to forward to the relations a letter of condolence and sympathy with them in their bereavement. The President mentioned that he had received a letter from the Hon. Secretary, stating that owing to his professional engagements he could not devote so much of his time to the Society as he had done in the past, and the Committee had asked Mr. Percy Morris to act as a joint Hon. Secretary, which he hoped he would be able to do. Mr. Percy Morris read a paper on "The Development and Printing of Hand-camera Negatives," demonstrating both processes. He used hydroquinone for negatives and ferrous oxalate for paper.

Lewisham.—At the meeting on the 4th inst., a demonstration of "Autotype," by the Autotype Company, was given. Ranged round the room were numerous very fine specimens of prints on paper, glass, and opal, having every range of colour, from red chalk to engraving black, showing that by choosing a particular colour to suit the picture its artistic qualities were greatly enhanced. After giving a short history of the process, the demonstrator explained the method of printing by the aid of actinometers (the tissue showing no visible alteration during printing), several of which he passed round, together with samples of the tissue and supports. He then developed several prints, both for single and double transfer. The whole process is easy when once the method of using the actinometer for gauging the exposures is understood, the opals being specially simple in comparison to other methods, and the results very good indeed. The demonstration proved most interesting, the only wonder being that autotype printing is not more used than it is. On December 18th the AMATEUR PHOTOGRAPHER 1891 Prize Lantern Slides will be exhibited by Mr. Charles W. Hastings.

Leytonstone.—On the 2nd inst. Mr. R. Sefton in the chair, an in-

teresting and amusing lecture was delivered by Mr. Tom Symmons, on "The Cad and the Camera." He defined a cad, contrasted caddish and gentlemanly conduct with a camera, and related several anecdotes to illustrate his meaning. He then asked the members present to give their views upon the matter, which most of them did. The question was raised as to whether an amateur had the legal right to snap-shot, print, and distribute copies of an individual against his will. This was left undecided, although strong opinion was expressed as to its reprehensibility considered from an ethical standpoint. After the usual vote of thanks, the Secretary read a communication from the Photographic Society of Great Britain, referring to the affiliation scheme, which was then placed upon the table. Residents of the neighbourhood interested in photography are informed that this club combines sociability with technicality. Meetings are held every Wednesday evening at eight o'clock at the Assembly Rooms, High Road, Leytonstone. Visitors are invited.

Lowestoft.—The above society held their second exhibition this season on the 3rd inst., at the School of Science and Art, Regent Road. The evening commenced with a few remarks from the Chairman, Mr. W. Stringfield, regretting the absence of their President, Mr. F. Mayhew, and several friends who were unable to be with them, after which a series of slides illustrative of a journey through the "White Mountains of New Hampshire" were projected on the screen by Mr. G. W. Stringfield. These slides were of exceptional merit, and the accompanying interesting description, read by Mr. W. J. Roberts, was listened to with marked attention by a large and appreciative audience. The Chairman, in thanking them for their manifestations of approval, called attention to the Instruction Classes intended to be held in connection with the Society, and he trusted that ere long these would be combined with other classes, forming a technical school, which should be centred in a suitable and substantial building, such as they hoped shortly to see in that rapidly increasing and flourishing town.

Midland.—At the ordinary general meeting at the club rooms, Queen's College, Birmingham, on the 4th inst., Mr. Hall Edwards, President, in the chair, an interesting paper was read by Dr. Leech upon "The Keeping Qualities of Dry Plates," which, however, dipped largely into the question of the invention of the gelatino-bromide process, and also into the effect of damp upon plates, and the destruction of the latent image by prolonged soaking in bromide of potassium. Dr. Leech had prepared a complete and elaborate series of negatives, which were passed round for inspection. Plates were shown made as far back as 1880 (gelatino bromide) and 1878 (collodio-bromide). A Swan plate made in 1880, exposed and developed in December, 1891, gave a good result. But, undoubtedly, the best were of the Liverpool Dry Plate Company, made in 1878, exposed and developed in December, 1891. There was but the slightest trace of marginal fog, and the image was bright and vigorous. In the discussion that followed, considerable stress was laid upon the methods of packing plates; the use of paper between was strongly condemned, and it was pointed out that the old methods avoided any such plan.

North Surrey.—At the meeting on the 1st inst., after the formal business was concluded, Mr. Waltham exhibited and graphically described to a large and appreciative audience a most interesting and well-executed series of slides made from negatives taken during his recent journey through Algeria and Tunis. It was a noteworthy fact that the slides which called forth the most admiration were prepared from negatives taken with the Kodak. The next meeting of the Society, on the 15th inst., will be held in the Lecture Hall of the Roupel Park Wesleyan Church, Christchurch Road, Streatham, when the Society, in aid of the funds of that church, will give a public exhibition of lantern slides; the first part consisting of an exhibition by Mr. J. Thomson, F.R.G.S., of the slides made by him to illustrate his journey through Siam and Cambodia, and the second of slides made by members.

North London.—In the report of this Society's meeting, furnished last week, it was omitted to be stated that in connection with the optical lantern, Mr. A. Mackie exhibited a series of slides illustrating the results of a number of experiments made by him to test the effect of altering the proportions of the ingredients constituting the ordinary pyro developer. Taking the ordinary standard developer as represented by 2 gr. pyro, 1 gr. bromide potassium, and 2 min. ammonia to the ounce, he had made a succession of similar exposures on a sensitometer scale, and then developed the exposures in three sets, which were shown on the screen. In one set the pyro was increased and decreased by regular stages, in the second the bromide, and in the third the ammonia were subjected to the same treatment, the results being received with much interest, as showing the amount of control of density given by thus varying the proportions. It appeared to be evident that the knowledge of the power thus given might be of great service in dealing with different classes of plate and in making the developer thus suitable to varying exposures. Next meeting, Tuesday, 15th December,—"Carbon Printing," by the

Secretary, Mr. W. Bishop. Visitors are invited. Commence at 8.15 p.m.

Oxford.—On the 1st inst. Mr. A. Robinson in the chair, Mr. H. M. Philipps gave a demonstration in "Autotype." After describing the preliminary stages he developed several prints and afterwards transferred them.

Richmond.—At the meeting on the 4th inst., Mr. Davis in the chair, the subject of "Lenses" was discussed with the aid of specimens and illustrations lent by Messrs. Taylor, Taylor, and Hobson, of Leicester. Mr. Ardaseer explained the exhibits, which comprised flint and crown glass in the rough state, and ground and polished flanges in all stages of manufacture, and several finished lenses, including one of the well known Casket sets. Slides were then passed through the lantern illustrating very clearly the principle and the action of lenses, and the method of their arrangement in the various combinations commonly in use.

Rothesay.—The monthly meeting on Tuesday the 1st inst. was held in the St. George's Hall. The prize-lantern slides of a contemporary were shown to an audience composed of over 200 members and friends. The description was read by Mr. E. Isle Hubbard, a Vice-President, and Mr. James Leadbeater, Treasurer, had charge of the lantern arrangements. Slides contributed by Mr. G. T. M. Rackstraw, Mr. W. Mason, and the Hon. Secretary were also displayed, together with the successful slides in the Society's recent competition.

Sheffield.—The ordinary monthly meeting was held on the 1st inst., Mr. B. J. Taylor in the chair, when after the routine business of the meeting, and the election of a new member, the Secretary announced the fixture for the public exhibition of the AMATEUR PHOTOGRAPHER 1891 Prize Lantern Slides, for the 20th January, 1892, at the Montgomery Hall, under the combined auspices of the three Sheffield societies, when it has been arranged that Mr. Chas. W. Hastings will deliver the descriptive lecture. The proceeds being for the benefit of the Royal National Lifeboat Institution; nearly all the tickets were taken up in the room. Mr. Braham gave a practical demonstration, subject, "Carbon Printing," showing the various processes, from the exposure on the negative to the finished pictures as transparencies and on opals and other beautiful colours in sepia, red chalk, etc., which caused a deal of inquiries and discussion, and was very satisfactory and interesting. The Chairman announced the winners of the annual competition as follows:—Class 1, Mr. Crowther; Class 2, Mr. Toplis; Class 3, Mr. E. Beck; Class 4, Mr. Bromley first and Mr. Crowther second; Class 5, Mr. E. Beck, both first and second. The competition slides were then passed through the lantern, and a hearty vote of thanks to Mr. Braham terminated the meeting.

Southsea.—By the kindly permission of the Mayor, Mr. J. Scott Foster, the meeting on the 2nd inst. was held in the Town Hall. About 150 members and friends were present to hear Commander C. E. Gladstone, R.N., lecture "On Some Architectural Features in Normandy and Brittany." The slides, about seventy in number, consisted of views of numerous ecclesiastical buildings, and some quaint old streets in Rouen, Caen, Bayeux, Dinan, and Mont St. Michael. The architectural features in each view were described in a most lucid and instructive manner, which together with the beauty of the pictures rivetted the attention of the audience.

South Hornsey.—At the ordinary general meeting held on the 3rd inst., Mr. D. B. Harrower in the chair, Mr. M. H. Hudson opened a discussion on "Developers," in which Messrs. A. Rothschild, D. B. Harrower, S. Lang, and others took part. Mr. Hudson exhibited some very fine negatives taken with an "Ideal" hand-camera, as well as some half-plate ones, all of which were much admired. Next meeting, Monday, December 21st.

Stockport.—The members of the Stockport Photographic Society propose to give a public lantern show on the 15th inst., when a series of slides, by Mr. J. E. Ellam, illustrating "Stratford-on-Avon and Kenilworth," will be exhibited, and these will be followed by some views of local scenery by other members of the society.

Sutton.—The photographic section held its ordinary monthly meeting on Tuesday, the 1st inst. After the usual business the AMATEUR PHOTOGRAPHER 1891 Prize Slides were exhibited, and were universally declared to be exceedingly good, many of them equalling the work of some of our popular professionals. The subjects are novel and varied, and as these are over 180 in number, they form a long and admirable evening's entertainment.

West Kent.—A meeting was held at the Board-room, Bexley on the 4th inst., the Vice-President (Mr. A. R. Dresser) in the chair. A letter was read from the Photographic Society of Great Britain, re affiliation scheme. It was the unanimous opinion that this Society do not join, as very little or no benefit would be gained thereby. The lantern was then lit up, and slides by Messrs. Jones, Taylor, Dresser, Grant, Clarke, and Hawkins were passed through, some being exceedingly good. Next meeting takes place at the Station Hotel, Sidcup, on Friday, December 18th; Mr. A. R. Dresser on "Hand Cameras."

To Correspondents.

All communications for these columns are to be addressed to **The Editor, "Amateur Photographer," 1, Greed Lane, Ludgate Hill, London, E.C.**

RULES.

1. Write clearly and distinctly on one side of the paper only.
2. Write each Query or Answer on a separate sheet of paper.
3. Write the name and address legibly on the back of each communication, and sign all Queries and Answers with name or *nom de plume*.
4. All matters for these columns MUST be received by TUESDAY MORNING'S POST.
5. The Editor does not undertake to answer questions by post.
6. In answering Queries, correspondents are requested to mention, in every instance, the number and full title of the query referred to.

QUERIES.

5272. **Enlarged Negative.**—Can enlarged negatives be made direct in the camera from smaller photographs? How are cabinet copies made from c.d.v.'s?—**OMNIA VINCE LABOR.**

5273. **Copying.**—Can copying c.d.v. same size, or reducing cabinets to quarter-plate be done with Lancaster's quarter-plate Instantograph outfit? If so, would some reader kindly give working details for making easel, giving particulars of "focal length of lens," how camera is to be fixed to baseboard, distances from picture to lens and ground-glass in each case; and any hints as regards exposure and lighting?—**OMNIA VINCE LABOR.**

5274. **Teneriffe, Photographs wanted.**—Can any kind friend give me the name of some firm in London who keep photographs of the island of Teneriffe? I tried at Mansell's, in Oxford Street, two years ago, but they had none.—**G. C. H. W.**

5275. **Capetown, Photographs of.**—Can any kind friend give me the name of any firm in London who keep photographs of Capetown? Mansell's, of Oxford Street, kept none two years ago.—**G. C. H. W.**

5276. **Mounted Prints Breaking when Bent.**—When in Australia some two years ago I purchased a panoramic view of Sydney Harbour. This view consists of three separate prints, and I am anxious to mount the three prints on one page of an album. The album is not sufficiently wide to allow the three prints to be fixed over all their surface side by side on one page. I therefore propose to mount the print which forms the centre of the panorama in the middle of the page and fix about half an inch of the other two, one on each side of this centre one, and bend them over the centre one. They will then open out and the panorama will be complete. What I am anxious to know is—are the prints likely to break off where they are bent over, and is it advisable, before mounting them in the album, to mount them on some fine canvas?—**G. C. H. W.**

5277. **Developing Rapid Plates.**—Could any reader kindly let me know the cause of my plates not having any subject whatever upon them after being exposed in a quarter-plate camera (Lancaster's), fitted with rapid view lens? Stop used, $f/12$; plates, Ilford extra-rapid, developer, hydroquinone; Gem drop shutter.—**J. T. R.**

5278. **Lens.**—Which is the best lens for 5 by 4 hand-camera, to be used principally with focus screen on a light tripod, and occasionally for snap-shots in hand?—**R. R.**

5279. **Cut Films.**—Can cut films be successfully used, or does the want of stiffness prevent a sharp image from being obtained?—**R. R.**

5280. **Spots on Films.**—I have been using some Carbutt's negative films, and find that some of my negatives, developed some time ago and which seemed all right then, have some silvery spots on them, evidently from the silver paper used for printing. Can any readers inform me how I can get these spots out, and what is the reason of their being there? The spots look red when the negative is held up to the light and looked through.—**F. C. M.**

5281. **Positive.**—In making a positive with printing frame, what exposure should I give with Page's xxxxx. plates—fairly dense negative, seaside at noon?—**H.**

5282. **Enlarging.**—What is the best way of enlarging from quarter-plate to about 12 by 10? I have a double extension quarter-plate camera with Ross 5 by 4 lens, and an oil lantern with 4 in. condensers; this, however, lets in a good deal of light.—**CARBONATE.**

5283. **Washing Gel. Chlor. Prints.**—What is the best way of washing gelatino-chloride prints, as the

film I do not suppose would stand the alternate hot and cold water that I use for silver prints? Most automatic washers would be liable, I should think, to tear the film.—**CARBONATE.**

5284. **Copying Negatives.**—What is the best way of copying a negative? Can it be done by first making a transparency, and then a negative from that? A description of the process, i.e., plates, developer, etc., to be used, or reference to books would much oblige.—**CARBONATE.**

5285. **Ilford Ordinary, Rapidity of.**—Should he much obliged if any one could tell me the rapidity of Ilford ordinary plates compared with Fry's lantern plates or Eastman's bromide paper, for printing by contact to get a transparency.—**CARBONATE.**

5286. **Antipodes.**—I am starting on my return to Australia very shortly, and I would feel so much obliged to your readers if they would tell me from their experience which hand-camera they would recommend my taking out for good all-round work. Expense is no object.—**G. S. D.**

5287. **Kodak.**—Will any one who has had experience with the Kodak hand-camera give me information concerning the same? What sort of lens has the No. 3 Junior (the one I am thinking of getting)? What is the speed of shutter? Can instantaneous portraits be taken with it on bright days in winter? Will the Eastman film keep as long as plates? If not, how long will it keep? I have read that for the Kodak you must have for shutter-shots very bright sunlight. Any further particulars I shall be much obliged for.—**B.**

5288. **Mounting.**—Can any reader explain the correct way to mount prints after having first glazed them by squeegeeing on glass? I find that after I have applied the starch, the gloss has almost gone. Can the glazing thus obtained be made permanent?—**MONT LARROW.**

5289. **Lantern Slides Wanted.**—I wish to obtain some lantern slides suitable for masonic lodge meetings, also others illustrating the holy coat of Treves and travel in Hungary and Transylvania, either by or exchange for slides from my Californian and Canadian negatives.—**ORIOLE.**

5290. **Ground-Glass, how to Grind.**—What is the best method of grinding plate glass, to produce as fine a surface as that which is on the best focussing glasses of cameras?—**ENQUIRE.**

5291. **Mounting Ilford Printing-out Paper.**—Can any reader tell me whether there would be any danger in mounting an Ilford printing-out paper print from the method given by Mr. Fred Davis in the AMATEUR PHOTOGRAPHER of 23rd October, page 298? Is there any chance of the "cool" warmed flat iron melting the gelatine of the print?—**G. C. H. W.**

5292. **Washing Gelatino-Chloride Prints.**—Having just had a print washer made from the directions given by "Blister" in his reply to Query 5115 in AMATEUR PHOTOGRAPHER of October 16th, and of his dimensions, imagine my dismay when I read in the AMATEUR PHOTOGRAPHER of November 27th the opening sentence of Mr. A. Lewis' reply to Query 5223: "The action of a washer on these gelatino-chloride prints is very disastrous!" I left three prints on Ilford printing-out paper all night in the above-mentioned washer, and a very small force of water was required to keep them turning round, and, as far as I could see, they were undamaged in the morning. I am rather anxious to know what the "disaster" is that dogged their steps (or rather turns). My prints are whole-plate.—**G. C. H. W.**

5293. **Opals.**—Would some kind reader who has used these please give particulars of how they are mounted in frames or on plush blocks?—**ILA.**

5294. **Enlarging Apparatus.**—Will anyone who has used Lancaster's Combination Mullen in Parvo kindly tell me—(1) Is it reliable in every way for bromide paper and opals? (2) Is the lens suitable, or would an Optimus 7 by 5 R.R. of 8½ in. focus do better? (3) Is there carrier arrangement for enlarging from, say, quarter, half, and whole-plate negatives? (4) What is the principle of carriers at the other end to receive the positive image of different dimensions? (5) What is the principle of dark slides, and is the bromide paper or opal in exactly the same register as that previously occupied by focussing screen? (6) Can it be used at night with a good strong light reflected through a tissue paper or ground-glass diffuser? Any other information from personal experience will be much valued.—**THE BARON.**

QUERIES UNANSWERED.

No. 27.—Nos. 5243, 5247, 5250.
Dec. 4.—Nos. 5255, 5257, 5265, 5266.

ANSWERS.

5227. **Ilford Formula.**—I am sure "Iso" and myself ought to be very much obliged to "W. A. W." for putting us both right. I would only suggest to him that (in the words of that celebrated cartoon in *Punch* years ago) "If you must do a sum, you might as well do it right!"—**PEN.**

5232. **Universal Flange.**—This is only advertised by Fallowfield, and is the same thing as Laverne's (Clement and Gilmer's) universal adapter, inquired after by another correspondent. It holds the lens

securely, and is easily adjusted. For the field its weight is a drawback, but it can also be had in aluminium, at a slight increase of price. No. 2 is large enough for a whole-plate camera.—**J. C. O.**

5241. **Saturated Solutions.**—I see that in my answer to this query last week I inadvertently gave the strengths of "H. S. L. R.'s" fixing baths as 1-3 and 1-4. They should, of course, have been 1-4 and 1-6. The alum bath, too, might be used of double strength, as "Iso" points out.—**PEN.**

5254. **Kallitype.**—I use the following developer:—
Rochelle salt 1 oz.
Borax ½ "
Water 10 "
Sol. bichromate potass (20 gr. to oz.) 10 min.

with which I get black tones. On one occasion the print came out sepia, but the cause was traced to damp. The paper had better be kept wrapped in waxed paper, in a tin box. Of course, there is much less difficulty in keeping things dry in our warm dry climate. I too have tried the permanganate, instead of bichromate, but find it does not answer as the salt is so soon decomposed and stains the prints frightfully. The makers tell me there is no advantage in having the solution hot.—**S. C. B. (Genoa).**

5256. **Blisters.**—These generally appear when the sensitised paper has been very strongly salted previous to sensitising. They may also be due to an accumulation of gas behind the film of albumen. The remedies are—(1) Using all solutions at the same temperature, as far as possible; (2) a strong salt and water bath immediately after fixing; (3) dipping into methylated spirit immediately the blisters appear.—**PEN.**

5256. **Blisters.**—It is rather unusual for prints to blister during toning. They generally do so while fixing, or while washing in the first water. The reason the blisters appear is, it is thought, through a fault with the paper containing a great quantity of albumen. There are two or three ways to remedy this most unpleasant observation, viz. (1), always use all your various solutions at the same temperature; or (2), immediately you see the blisters appearing, place the prints into a saturated solution of salt. Do this after fixing, not before. (3) After the prints have been washed, toned, fixed, and washed for 24 hours, dry them, and it will be seen that the blisters will be gradually disappearing, and, when quite dry, will not be noticed again.—**W. H. ELLIS.**

5256. **Blisters.**—All papers, more or less, are liable to blister; the cause, more often than not so, is the sudden change of temperature from one bath to another. If your toning bath is kept at 70 degrees, endeavour to let the water after it be 70 degrees. You should not use an hypo bath stronger than one part hypo to seven or eight parts water. Blisters can often be prevented by adding to the fixing bath about an ounce of methylated spirit, or by throwing in a handful of common salt in the last washing before fixing. So far as I know, there is no remedy for very large blisters; but if they be small, with care they can easily be smoothed out with clean white blotting paper.—**ZEBRA.**

5258. **Platinotype Company's One Solution Intensifier.**—I have tried this, and find it very reliable. Did "Cape Comorin," firstly, read the directions; secondly, thoroughly wash his negative; thirdly, keep it in the solution long enough? Insufficient washing is probably the cause of the dirty muddish brown. The reddish colour is natural with this intensifier.—**TUOM LLARROW.**

5259. **View-Finder.**—Fix the finder to the front of your camera, and you can then observe it by placing your eye on a level with the camera back.—**PEN.**

5260. **Condenser.**—An 8½ in. will give the best results.—**PEN.**

5260. **Condenser.**—The size of the condenser up to whole-plate ought to be the size in diameter of the longest side of the plate; the size for half-plate ought to be about 6 in. in diameter.—**W. H. ELLIS.**

5261. **Enlarging.**—This answer can only be answered by self-experience. My experience shows that the bromide paper (slow) requires 30 minutes, the rapid 10 to 15 minutes, that is, using a fairly dense negative as you state, and a good light. The Ilford plates require, as near as possible as can be judged, from 1 to 2 minutes.—**W. H. ELLIS.**

5261. **Enlarging.**—At this time of the year, I allow with Eastman's paper, to enlarge from a quarter-plate negative to whole-plate size, from one to five minutes. The camera is in the room, pointed to the north-east, and there is a piece of ground-glass in front of the negative. Of course, for a larger print, a longer exposure would be necessary. The conditions vary so much that it is impossible to give a table for exposures.—**S. P. J.**

5262. **Stained Negatives.**—Yes. I should say so.—**PEN.**

5262. **Stained Negative.**—The following from Wall's "Dictionary" will suit your purpose. I think Sulphocyanide of potassium 10 gr.
Nitric acid 5 minims.
Distilled water 1 oz.

Great care must be taken when and while using this solution, or the negative will be irredeemably damaged.—**W. H. ELLIS.**

5262. **Stained Negatives.**—Plates developed with pyro nearly always have a yellow tinge about them, but, as you suggest, insufficient washing will always cause stains. The ordinary alum and citric acid will

not do much good if the plates are very yellow. Edwards' have a made-up clearing solution, which they say will completely and instantly clear away yellow stain from pyro-developed negatives, and which prevents any subsequent deterioration in colour or density. You can obtain this, I think, at Fallowfield's. I have not tried it myself, so cannot say much about it, but if it does what it professes to do it must be invaluable.—ZEBRA.

5264. Developing.—I frequently develop several plates in one dish at the same time, and find no difficulty in so doing. I make up a normal developer to begin with, and as the plates are finished the developer is poured off, other plates inserted, and the developer returned to dish. Negatives requiring forcing are allowed to stay in longer or removed to a stronger bath. Further particulars by letter if desired.—H. V. E. TREW.

5264. Developing.—Yes, I have tried developing several quarter-plates at once, but never again. I should certainly advise you to abandon the idea, as the game is not worth the "candle." How can you look after two or three plates which have each had a different exposure? Besides, there is a danger of the plates sliding over one another and sticking together, then where would you be if your plates were valuable? There is a special tray sold by Tylar called the "Multiple," with divisions to hold four quarter-plates; but I think many readers will agree with me when I say, if you aim at good results, it is next to impossible to do justice to each plate when developing four at a time.—ZEBRA.

5267. Groups.—If "W. H. E." wants some studies in groups, I have a large variety that I could show him for his guidance if he chooses to call upon me. If I am not at home, my manager will let him see them.—R. F. BRICKDAL (Address with Editor).

5268. Prolonging Frame.—I know of no makers selling one, but very simple instructions were given for making in the "British Journal Almanac" for this year.—PEN.

5269. Time for Development.—The time for development varies with almost every negative, and it is impossible to give any definite periods. I use Wratten's plates. In some cases development is complete in five minutes, with others, say, for instance, copies of pictures, fifteen minutes are occupied. Develop slowly in all cases, and learn by experience when development is complete, irrespective of time.—BETA.

5270. Lantern Slide Making.—Much the best way would be for you to get a good reducing camera like Griffith's, or Pearson and Denham's, to be had wonderfully cheap.—PEN.

5271. Postal Photographic Club.—There is a vacancy in a photographic postal club which I am conducting, and I shall be pleased to forward particulars on application.—H. V. E. TREW, 107, Old Town Street, Plymouth.

EDITORIAL.

SPECIAL NOTICE.—We are very pleased to find that replies in this column are so much appreciated, and we should be very grateful if those requiring advice would send their letters to us before TUESDAY MORNING'S post if possible. The time occupied in replying in this column is very considerable, and owing to the often late receipt of letters, many matters have to be left over each week. This we much regret.—ED: AM: PHOT:

GREEN AMATEUR.—(1) Though rather wasteful, the easiest plan to varnish a negative is to warm it, place in a dish and flood with varnish, then lift out and dry by warmth. Another satisfactory method is to warm the negative, hold it over a dish or spouted basin, and dip it with the varnish from a large cup. (2) The fixing bath you mention in your letter is not an improvement on the ordinary fixing bath; in fact, just the contrary; but if you dissolve the citric acid in a little water and add it to 2 oz. of sulphate of sodium in solution, and then add this mixture to hypo solution, you will have a very good bath, which acts as a clearer of stains. Probably the idea of protecting the fixing bath from light is that the silver salt would be acted on, but certainly no ill results follow from keeping it in the light.

ARISTOTYPE.—(1) You must saturate the combined bath with chloride of silver either by adding this pure or using scraps of paper. (2) This is by no means so easy, but give longer exposures and add more bromide to your developer. (3) It is quite possible that the articles in question may be elaborated and then published.

A. C. NICHOLS.—(1) About 90 seconds would be right, we think, under the conditions named. (2) To successfully intensify with uranium it is absolutely essential that there should be no hypo in the film, or the negative will be reduced and stained; this intensifier merely produces a change in colour of the image, and it is only necessary to wash for about half an hour after its use.

GEO. RANDALL.—We believe the missing quantity is pyrogallol, 60 gr.; this would give you a strength of 3 gr. of pyro to every ounce.

W. H. WHARTON.—We find that luminous paint can be obtained of Mr. W. C. Horne, 6, Dowgate Hill, London, E.C.

W. G. D.—(1) It would be impossible to make a

very sensitive emulsion quite transparent, and there would still be the back surface of the glass plate to take into consideration. (2) The stains are due to the action of air and moisture on the glass; you might try gentle polishing with wash leather and dilute sulphuric acid, followed by plenty of washing, drying, and then rubbing with methylated spirit, and again drying. The glasses should be recentred, though, of course, they will work if merely placed in contact. This is an optician's job, and we should not like to undertake it.

A. G. PATERSON.—Try adding a little acetic acid to the soaking water, which should be tepid; this will help to soften the gelatine, which is the cause of the print not stripping.

J. A. HARRISON.—We have carefully tested your scraps and find no trace of hypo, but a trace of iron. In the face of this and your present letter, we think the blame is due to a local impurity in the mount. We are always pleased to help our readers as far as we can.

MAZA.—We have found your previous letter, but not the prints and negatives. We will have a further look and write you by post.

H.—We do not know the sensitometer number of the plates in question—probably about 18—and the exposure depends so entirely on the subject and the light that we cannot give you any help unless you give us some more data.

MANFIELD.—(1) We do not like soaking the paper before developing; provided the exposed paper is laid flat in the dish, the developer can be applied in one sweep, evenly cover it and without cockling. (2) Provided the gradation of the negative is good, it is advisable to expose longer, but a negative with weak shadows and dense high lights should be exposed close to light.

BANJO.—It is entirely beyond the limits of our space to admit any description of the process you want; it would be more satisfactory to you to obtain a handbook on the subject, such as Wilkinson's "Photo-engraving and Photo-etching," price 5s., or Schnaass' "Collotype," price 5s.; the former is the better, we think.

M. S. D.—Marion and Co., 23, Soho Square, supply the acid sulphate. We may possibly adopt your suggestion as to our illustrations.

IONARUS.—A. J. R. Gotz, 19, Buckingham Street, Strand, would send you full particulars of the ferro-gallic process and prices. (B) Your fault of not obtaining good blacks is due to damp. We are still experimenting with Kallitype. (C) It is impossible to obtain first-class satisfactory results with one flash lamp, two or three are required, so as to reduce the contrast. Very fine results can be obtained with flash-light, but it requires practice and several lamps. (D) Can you not block out the sky with sepia and carmine?

BLANCHE.—It is desirable to filter toning baths of all kinds after using.

J. C. FELL.—We return your prints this week. Thanks for the note.

J. T. HYNES.—(1) Far too much top light, and the vignetting is most curious. (2) Again too much top light, but the results are more pleasing than No. 1. (3) It is a pity you did not cut a little off the top and put it on the bottom, so as to include the feet. (4) The lens is of far too short a focus. If we remember rightly, the perspective of your picture is wrong; it is over-printed also.

JOHN H. DUMONT.—We wait your answer to a letter which appeared in our column from Mr. S. Francis Clarke.

F. M. G.—We will make enquiries and let you know. We cannot concern ourselves with trade disputes. The firm we know by name, but if you have any doubts of their honesty, your course is quite clear; write to the chief constable, he will tell you what their standing is. The "cash with order" only needs resisting by the buyer, and the seller will have to give in.

W. G. GROVES.—From what we hear, your complaint was well founded. Upon the last occasion there was no attempt at unruliness. There has been a great run upon those lamps; they are very cheap, and it is quite possible that the man has run out of stock.

Sale and Exchange.

RULES.

CHARGE.—Twelve words or less for Fourpence. Every additional three words, one penny. The name and address of the sender must be paid for.

(A single figure, or group of figures undivided by letter, space, stop, or words, counts as one word; compound words count as two words.)

ADDRESS.—All advertisements (which can be received up to Wednesday morning, 9 a.m.) and other communications having reference to the "Sale and Exchange" column, must be addressed "Sale and Exchange, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C."

CARRIAGE must be paid on all apparatus sent for report, and they will be returned carriage forward.

DEPOSITS.—The money for goods forwarded on approval must be deposited with the Publishers of the AMATEUR PHOTOGRAPHER, who will hold the amounts deposited until they are satisfied that the transaction has been completed to the satisfaction of buyer and seller.

COMMISSION.—A charge of 2½ per cent. will be de-

ducted from all deposits whether a sale is effected or not. Minimum charge 1s.

PAYMENT. All payments are to be by cheques or Postal Orders, made payable to Hazell, Watson, and Viney, Ltd., 1, Creed Lane, London, E.C.

PAYMENTS should be made in Postal Orders or Postage Stamps.

REPORTING.—Apparatus may be sent to the EDITOR, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C., who will report upon the apparatus to the buyer for a minimum fee of 2s. 6d., or a commission of 2½ per cent., upon the sale price of the apparatus.

ADVERTISEMENTS can be inserted under a number, the name and address being registered, and letters forwarded for a fee of 3d. to cover postage.

Backgrounds.—Background, 8 ft. by 78 in., on linen and roller, now, snow scene one side, garden scene the other; price 15s. 6d.—William Hare, Photographer, Sutton, Surrey.

Cameras, etc.—Camera, quarter-plate, leather bellows, one double back, suitable for reducing, long-extension, no baseboard; 7s. 6d. cash.—K., 139, Southampton Street, Reading.

Quarter-plate Underwood's Instanto camera, one double slide, new condition; offers?—C.C., Middle Street, Yeovil.

Cameras, Lenses, etc.—Half-plate camera, all movements, 40s.; rectilinear lens, 45s.; approval; deposit.—B. L., 126, Portobello Road, North Kensington.

Hand-Cameras, etc.—King's Popular hand-camera, carries 12 plates, full-sized image visible during exposure, two lenses, cost 55s., price 25s.; sample print, 3d.; 5 by 4 Derwent plates, 1s. 3d. per dozen, post free.—Wallis, Conservative Club, Derby.

Marion's Academy hand-camera, carries 12 plates, 1½ in. by 1¼ in., R.L. lens, view-finder, and instantaneous shutter, splendid instrument, splendid polished oak retouching desk, new, will take plates to 10 in.; will exchange for half-plate camera and good rapid rectilinear lens.—C. W. Loten, Hornsea, Hull.

Lantern Slides.—29 high-class lantern slides; 15s.—10, Dunsford Villas, Merton Road, Wandsworth.

Splendid set Swiss (Yorks) slides, 50 in box, new, No. 1 tour, with reading; £2.—Smith, jun., 70, High Street, Wavertree, Liverpool.

Lenses, etc.—Half-plate rapid view and portrait lens (by Taylor, Leicester); cost £1 10s.; price £1; an excellent lens.—J. Mendum, 17, Westgate Buildings, Bath.

5 by 4 rectilinear lens, 25s.; Leviathan ditto, iris diaphragms, 35s.; 5 by 4 wide-angle rectilinear, 27s. 6d.; Optimus lantern lens, 10s.—59, Kippoch Street, Cardiff.

Rouch's 5 by 4 instantaneous doublet, as new; list 40s.; price 20s.—Sharland, Santos Road, Wandsworth.

Optimus Euryscope 9 by 7, covers 10 by 8 plate, perfectly equal to new, a splendid instrument; price £4 5s.; approval; deposit.—William Hare, Sutton, Surrey.

Negatives.—Fifty instantaneous quarter-plate negatives, views of London, suitable for making lantern slides; price 1s. each.—John Stabb, 154, Queen's Road, Bayswater.

Sets.—Whole plate camera (Meagher's), Ross' lens, iris diaphragms, Newman's shutter, retouching desk, travelling bags, and leather case, everything complete, and in perfect condition; £18.—Apply, Sarsfield, Chemist, Durham.

Optimus wide-angle half-plate camera, with turntable, three double backs, Watson's tripod, leather case; price £7 10s.; reason for selling, working whole plate.—Dudin, 4, Fenchurch Street, London.

Half-plate Instantograph camera, dark-slide, tripod, and R.L. lens, new; bargain, 68s.—53, Slad Road, Stroud.

Excellent whole-plate long-extension field camera, taper leather bellows, swing-back, rising front, rack adjustment, reversing frame, two double backs, folding tripod, all quite new; price £4; approval; full particulars per post.—D. Padgham, Northiam, Sussex.

Lancaster's half-plate Instantograph square bellows camera, half-plate lens, instantaneous shutter, one mahogany double dark-slide, three Tylar's metal double dark-slides, leather case, mahogany tripod, about 60 copies AMATEUR PHOTOGRAPHER, two ebony dishes, pair of scales, all guaranteed perfect; the lot £3 18s.—Pollard, 7, Madeira Terrace, South Shields.

Sacrifice, through death. Lancaster's International half-plate camera set, all accessories, complete in case, cost £6, £3; superior studio set (by Daile), £2; cabinet rolling machine, 30s.; numerous sundries, new (troupe of 14 marionettes, complete for entertainment, £5; or exchange lot for genuine cob, furniture, or useful offers.—Adams, Alfred D. Clarke, Pailton, Rugby.

Camera, 7½ by 5 (by McKellen), three double backs, rectilinear lens, tripod, and case, complete, in perfect condition; cost £16 10s.; price £9 10s.—Cave, Chemist, Southport.

Quarter-plate camera, in perfect condition, with lens, tripod, and one double dark-slide, complete; 25s.; cost double.—F. W. Bennett, North Parade, Derby.

For immediate disposal, superior square bellows long-focus half-plate camera, three double slides, R.L. lens, focussing cloth, leather case with lock, tripod, two half-plate printing frames and washing tank, to take all sizes up to 8½ by 6½, all in perfect condition;

The AMATEUR PHOTOGRAPHER

Telephone No. 1645 Telegraphic Address: VINEY, LONDON

Office: 1, Creed Lane, Ludgate Hill, London, E.C.

No. 376. VOL. XIV.]

FRIDAY, DECEMBER 18, 1891.

[PRICE TWOPENCE.]

OUR VIEWS.

"To hold as 'twere the mirror up to nature."—Shakespeare.

OUR VIEWS.—AMATEUR PHOTOGRAPHER Monthly Competition, No. 31, "Seascape and River Scenery"—List of Awards—"Monday Afternoons"—Photographic Society of Great Britain—"The Ladies' Photographic Competition"—Brixton and Clapham Camera Club—"Secretary of the South London Phot. Soc."—Reports from the P.S.G.B.—Mr. Dumont and the "Photography at Home" Competition—Album of Photographs exhibited at Vienna—The Maddox Fund—Exhibition Rules—The Putney Phot. Soc.

LEADER.—Photographs in Colour.

ILLUSTRATIONS.—"A Shropshire Lane" and "Milking Time," by Mrs. Janie N. Hignett.

LETTERS TO THE EDITOR.—Public Libraries and THE AMATEUR PHOTOGRAPHER (Thos. H. Powell)—Photography and the City of London College (Walter Blizzard)—A Society for Norwich (Amateur)—"Photography at Home" Competition, 1891 (John B. Dumont and Francis S. Clarke)—Photographic Society of Great Britain (W. E. Debenham)—Alpha Paper (A. W. Gottlieb)—Exhibition Rules (A.W.G.)—The World's Fair (H. Trueman Wood)—Brixton and Clapham Camera Club.

ARTICLES.—Photographic Procedure (Wall)—Instantaneous Photography (Harrison)—Colour in Photography (Baudran).

PICTURE EXHIBITIONS.—New English Art Club—Herbert Schmalz's Pictures—Mrs. Evelyn Heathcote's Pictures—in Tennyson's Country.

EXHIBITIONS.—Leeds—North Middlesex.

NOTES.—Liverpool—Cresco Fylma—Vista Mounts.

SOCIETIES' MEETINGS.—Bedford—Belfast (Y.M.C.A.)—Birmingham—Blackheath—Bolton—Brixton and Clapham—Cambridge—Camera Club—Cardiff—Cork—Coventry and Midland—Derby—Devonport—Dundee—Ealing—Guildford—Hackney—Holborn—Ipswich—Ireland—Liverpool (Camera Club)—Manchester Am. Phot. Soc.—Manchester Phot. Soc.—Manchester Stereoscopic Club—Munster Camera Club—Newport (Mon.)—Richmond—Rochdale—Rotherham—South London—Sydeham—West London—West Surrey—Woolwich and District—Uttoxeter—Yarmouth Camera Club.

EDITORIAL DEPARTMENT.—All Literary Contributions, Queries and Answers, Photographs for Competition or Criticism, Books or apparatus for Notice or Review are to be addressed to the EDITOR, AMATEUR PHOTOGRAPHER, 1, CREED LANE, LUDGATE HILL, LONDON, E.C. (All Communications should reach the Editor on Tuesday.)

TERMS OF SUBSCRIPTION—

UNITED KINGDOM..... Six Months, 5s. 6d. Twelve Months, 10s. 10d.
POSTAL UNION " " 6s. 6d. " " 13s. 0d.
OUT OF POSTAL UNION " " 7s. 9d. " " 15s. 3d.

TRADE ADVERTISEMENTS are received up to Tuesday morning.

PUBLISHING DEPARTMENT.—All letters containing Subscriptions, Orders Remittance, SALE AND EXCHANGE Advertisements, or other business matters for the AMATEUR PHOTOGRAPHER are to be addressed to the Publishers, HAZELL, WATSON, AND VINEY, LD., 1, CREED LANE, LUDGATE HILL, LONDON, E.C. (SALE AND EXCHANGE Advertisements, at the charge of Three Words for One Penny, can be received as late as WEDNESDAY MORNING.)

"Amateur Photographer" "Holidays with the Camera" Competition (Second Year)—Prizes: Gold, Silver, and Bronze Medals, and Certificates; with special prizes of "Niece" or progressive medals for past prize-winners. In all, twelve prizes will be placed at the disposal of the judges.

SUBJECTS.—All photographs are eligible that have been taken during the "Holidays," but must be landscape or sea pieces, with or without figures, views of town, photographs of cathedrales, churches, public buildings, etc., but NOT portraiture, figure study, or pictures which could be classed as "Photographs at Home."

DATE.—All photographs must be received on or before the 31st of December, 1891.

RULES, CONDITIONS, AND ENTRY FORMS will be forwarded on receipt of stamped addressed envelope. The application should be addressed, "HOLIDAYS WITH THE CAMERA," Editor, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C.

THE last AMATEUR PHOTOGRAPHER Monthly Competition—No. 31, "Seascape and River Scenery"—resulted in a very large number of prints being sent in. It was therefore determined to give two silver and two bronze medals, and two certificates.

First Silver Medal.

THOS. BALLANTYNE Glasgow.
("Troubled Waters.")

Second Silver Medal.

HENRY IRVING Darwen.
("By the Waters of Quietness.")

First Bronze Medal.

FRANK W. KENT Clapham.
("Back from the Fishing Ground.")

Second Bronze Medal.

HARRY HOLT Liverpool.
("Ferry Nab, Windermere.")

First Certificate.

R. W. COPEMAN Henstridge.
("Pell's Wharf, Beccles.")

Second Certificate

A. H. WEBLING Brighton.
("In Tow.")

It is not our intention to offer here any remarks upon the work, as it will all be criticised in the AMATEUR PHOTOGRAPHER Monthly Illustrated Supplement, and the whole of the photographs that have been awarded prizes will be reproduced in the Monthly Supplement.

We shall hope very shortly to be able to publish the programme of Competitions for 1892. They will offer some new inducements to compete, and will doubtless prove of as much interest as the large number that have already been held.

WE would beg to notify that the "Monday Afternoons at Home" will be discontinued until the second Monday in January, the 11th. These "Afternoons" have, we believe, been much appreciated, and they have certainly been well attended. It is the intention of the Editors to set one morning a week aside for the trade, when they may be consulted upon any question affecting the taking out of patents, inspection and explanation of apparatus, prior to preparation of notices for the paper. Opportunities will be afforded inventors to demonstrate their inventions, and to show the practical working of apparatus, etc.

MR. W. E. DEBENHAM sends us a long letter upon the management of the Photographic Society of Great Britain.

Our name has been brought into the matter, and it may be well to explain that we were not present as the Editor of this journal, but in order to make a tentative list of photographs to be reproduced in a contemplated publication, "Photographs of the Year." No notes were taken for comments upon the Exhibition, and we were there in our private capacity at the invitation of the Vice-President, Mr. H. P. Robinson. We should also like to put on record the fact that the Editor of the *British Journal of Photography* was in the room when we entered, but was fortunate enough to have left before the order "Strangers will withdraw" was so peremptorily given by the Assistant Secretary.

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THROUGH the courtesy of the Editor of the *Lady's Pictorial*, we reproduce two of Mrs. Hignett's photographs. This lady was awarded the Gold Medal in the AMATEUR "PHOTOGRAPHER LADIES' Photographic Competition." Next week we shall give one more photograph from those sent in by her—"A Shropshire Lane"—and two by the winner of the second prize, Mrs. S. Francis Clarke, "Lilac and Lilies," and "Grannie's First Lesson." These pictures will be a fitting souvenir of Christmas Day.

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It will be seen from a letter in another column that the Brixton and Clapham Camera Club have again changed their habitat, and at the Clarence Rooms, Cold Harbour Lane, they have most commodious quarters. We are quite sure that there are many of our readers who should be members of this very successful Club. Under the presidency of Mr. A. R. Dresser it has flourished, and we are quite sure that all the officials do their utmost. The reception on Saturday last was most gratifying. We would strongly commend this Club to the attention of our readers. Mr. F. W. Levett, the Hon. Secretary, 74, Geneva Road, Brixton, will gladly furnish further particulars, and the Committee will be only too glad to welcome visitors on their meeting nights.

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MR. CHARLES H. OAKDEN, of 15, Melbourne Grove, East Dulwich, S.E., has been appointed Hon. Secretary of the South London Photographic Society.

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REVERTING again to the affairs of the Photographic Society of Great Britain, we have to acknowledge the receipt, on Tuesday, the 15th, of a very voluminous report of the proceedings at the meeting of the members of the Society on Tuesday, the 8th; the time of the meeting was mostly taken up with statements in regard to the action of the Assistant Secretary in turning out certain persons during the hanging of the photographs at the recent exhibition. The whole report appeared in the columns of our contemporary, the *British Journal of Photography*, last week, and as it really only concerns those interested in the internal management of the Society, and has already received more than sufficient publication, we will abstain from taking up valuable space upon what is at best a personal matter.

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IN our correspondence columns will be found a letter from Mr. John E. Dumont, of Rochester, U.S.A., in answer to a letter published some time since from Mr. S. Francis Clarke, in which he called attention to the conditions under which prizes were awarded in the recent "Photography at Home" competition. Mr. Dumont has, by his letter and the declaration accompanying it, fully satisfied us that he is entitled to the prize awarded him (a Gold Medal), and we have, under registered cover, sent

the medal to him by this mail. Mr. Clarke also writes to us and, we think, fully sees that Mr. Dumont is entitled to the prize.

—♦♦♦♦—

WE have received from Herr R. Paulussen, of Vienna, a copy of the *Amateur Kunst*, an album containing thirty-seven reproductions in photogravure of selected photographs exhibited at the recent Photographic Exhibition at Vienna. The plates are on plate paper, 36 by 48 centimetres, and are enclosed in a strong and handsomely got-up portfolio. Nothing so good has ever been attempted in this country. We shall, however, before long hope to see work of the kind done here in connection with the prize photographs of our best English workers. The pictures are briefly criticised, from the art side of photography, by Herr J. Ritter von Falke, and as to their technical merits by Dr. J. M. Eder. The English exhibitors' work offers possibly the most interest to us, but there are no pictures in the album that will surpass those by Scolik (Vienna), J. C. Douglas (Munich), Baron Liebig, "Am Alten Canal;" Baron N. F. Rothschild, "Kinderjause;" and Baron A. F. Rothschild, two studies, "Waid hofner Ninetta." All the English work is good, and looking upon it side by side, we can sympathise with the judges at the Vienna Exhibition in the difficulty they doubtless experienced in making awards. The album includes reproductions of photographs by the following well-known workers:—Mr. and Mrs. S. Francis Clarke, Adam Distin, Carl Greger, Paul Lange, Ralph W. Robinson, Lyd. Sawyer, Ernest Spencer, F. H. Worsley Benison, and by Mr. A. R. Dresser, a very beautiful little reproduction of whose wave study, "Corbiere Rocks," is used as a "tail piece" to the text. It will be, of course, noticed that many of those who exhibited at Vienna have none of their work included in this album, we presume because they would not give their consent. We shall comment more fully upon the actual book in a subsequent number, but we cannot help heartily congratulating Herr Paulussen upon the admirable quality of his work. When judging at Amsterdam, we had an opportunity of appreciating the great excellence of the photogravures turned out from his *atelier*.

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We have just received the first list of payments and promises to the Maddox Fund made up to the 14th inst. Mr. Andrew Pringle, in writing, says: "There must be many others, specially manufacturers and dealers, anxious to contribute." We have already stated our views very fully upon the subject, and now append the list of contributors as sent to us:—

	£	s.	d.		£	s.	d.
Britannia Works Co.	100	0	0	H. J. Channon	2	0	0
J. Carbutt	50	0	0	West Kent Am. Phot.			
Camera Club List	27	16	0	Soc.	1	6	0
R. W. Thomas & Co.	25	0	0	W. I. Chadwick	1	1	0
The Autotype Co.	10	0	0	J. B. Wellington	1	1	0
Nelson, Dale & Co.	10	10	0	F. Beasley	1	1	0
"Photography"	10	10	0	C. Dawson	1	1	0
M. Whiting	5	5	0	H. M. Hastings	1	1	0
J. W. Swan	5	0	0	Manchester Am. Phot.			
F. York	5	0	0	Soc.	1	1	0
A. L. Henderson	5	0	0	F. Hollyer	1	1	0
N. Bannatyne	5	0	0	R.N.E. Coll., Devon-			
Col. Durnford	3	0	0	port, Phot. Soc.	0	10	0
W. Bedford	2	0	0	F. Lloyd	0	5	0

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WE publish a letter upon "Exhibition Rules," which very clearly points to the necessity of handicapping certain men who persistently exhibit for competition the same photograph. Our views are so well known and enforced in our own competitions, that it seems almost unnecessary to state that we never allow a photograph that has taken a prize in our

own competitions, or at any open competition or exhibition, to be entered.



THE Putney Photographic Society have arranged a good programme for the second half of the winter session, which will open on the 13th of January with a lecture on "The Camera and its Parts," by Mr. W. D. Welford; to be followed on the 30th by "Hand-Cameras," Mr. A. R. Dresser; February 10th, "Lenses," Rev. L. Macdona; 17th, "Carbon Printing," Autotype Company; 27th, "Exposure," Dr. J. F. Farrar; March 8th, "Development," G. Ardaseer; 26th, "Printing Processes," or general discussion; and on April 13th, "Mounting, with some Reflections on Artistic Photography," by A. Horsley Hinton.

cessive layers of metallic silver, and the thickness, colour, and ratio of the deposition of these successive layers of silver are determined—firstly, by the character of emulsion; secondly, by the exposure; thirdly, by the development. From the negative we have to make an albumen print, the character of which is again influenced, not only by the amount of silver used in sensitising the paper, but also to some extent by the subsidiary salts used to preserve the paper, by the light to which the paper is exposed, and the subsequent processes through which the print has to pass. But even eliminating all these minor matters, if thus we may term them, let us admit for the purpose of argument that the silver image in the negative is in distinct and fixed ratio to the action of the light emanating from the colours

LADIES' PHOTOGRAPHIC COMPETITION.



ON THE OUSE, HUNTS.

BY MRS. JANIE N. HIGNETT.

PHOTOGRAPHS IN COLOUR.

YET again we have another discovery in this field of experiment, and once more emanating from France. On another page we give a précis of a communication to the Photo Club of Paris by M. Baudran, from which it appears that he has utilised the principle of the interference of light, evidently inspired by the researches and results of M. Lippmann.

From the first account of the apparatus devised by M. Baudran we see that by placing an albumen print in a certain position and illuminating it practically as in the megascope as used in the lantern, he claims to have been able to discover feeble coloured tints, which said colours agree with those of the original object. We would point out that whilst this may be true, there is one point which strikes us as a difficulty not yet explained, and we will try and make this clear to our readers.

To obtain an albumenised silver print it is essential that we first make a negative—this, of course, goes without saying. Now the image in the negative is formed of suc-

of the object; will this silver image, when viewed as described by M. Baudran, reproduce the natural colours of the object? It is quite possible that it might do so, because most of us have seen the play of iridescent colours on a negative held at a particular angle in sunlight, and it might be possible to obtain a negative, on an ordinary plate, which would possess the requisite deposit of silver to act as did the deposit on the special plates used by M. Lippmann. But M. Baudran is not content with this; he states, and his statement is supported by the Photo Club of Paris, that an albumen print, that is, a silver image imbedded in a film of albumen and formed by the action of light passing through a negative, has the necessary ratio between the depths of its image to be able to extinguish certain coloured rays of white light and allow us to perceive the remainder, and that though faint they are distinctly recognisable.

We must confess that we receive this statement with considerable misgiving. Bacon states that science knows but two states of mind—denial and conviction—the vast

interval between which is suspended judgment, and it is to this vast interval that at present this subject belongs.

The second part of M. Baudran's announcement describes a process for obtaining coloured proofs utilising his previous discovery. If we critically examine this process it will be obvious that it partakes of the nature of a carbon process. Unfortunately, the inventor intends to keep as a secret the most important details, but in the light of his communication we may well sit in judgment on the capabilities of the process for reproducing natural colours. In the first place M. Baudran gives a porous material a coating of black varnish, which is rendered insoluble by exposure to the light. On this insoluble substratum he spreads a film of his secret "*excipient sensible*," which is transparent, liquid, and miscible with all colouring matters. Casting about for some such photographic solution, we suggest the bichro-

Letters to the Editor.

PUBLIC LIBRARIES AND THE "AMATEUR PHOTOGRAPHER."

SIR,—Some weeks ago I wrote to the Secretary of the Minet Library (Lambeth), offering to supply a number of copies of the *AMATEUR PHOTOGRAPHER* and other photographic literature if the cost of binding were defrayed out of the rates. I have as yet received neither acknowledgement nor reply, which is certainly strange, as a public appeal had been made asking for books of all kinds.

It might be interesting to ascertain if the weekly and monthly magazines are, at the end of every year, added to the lending department of the libraries. Back numbers can be obtained for a few months only, but it is obvious that the permanent storing of scientific periodicals, such as the *AMATEUR PHOTOGRAPHER*, must be of the highest possible value to many who have neither

LADIES' PHOTOGRAPHIC COMPETITION.



MILKING TIME.

BY MRS. JANIE N. HIGNETT.

mated honey and glucose solution, as used in the powder process. With this secret vehicle the inventor incorporates certain colouring matters which are chosen from the examination of a print in the inventor's special apparatus. We now come to the critical part of this new process. Unless a colour-sensitive plate be used, the deposit forming the image will be incorrect in the negative and incorrect in the print, so that the wrong colours will be thrown on the screen. Even if the colours were correctly rendered, it would be almost an impossibility to match them perfectly, and it is obvious that if the colours are distributed evenly and indiscriminately over the surface, the colours in the picture cannot be in their right places. And if the colours have to be locally applied, it is also clear that one can easily overlap into the next. If they are applied in successive layers we fail to see how one is to avoid rubbing down to the wrong colour.

Probably we shall hear more of this process, but at present we must confess that it seems to us that there is more hoped for than accomplished.

time nor opportunity to consult technical works of reference.—
I am, sir, faithfully yours,
December 9th, 1891.

THOMAS HENRY POWELL.

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PHOTOGRAPHY AND THE CITY OF LONDON COLLEGE.

SIR,—Knowing your willingness at all times to lend the aid of your columns for the formation of photographic societies, may I ask you to be good enough to insert these few lines?

It has been suggested that a photographic society be formed in connection with the City of London College, and considering the number of young men frequenting that institution, a large membership should be extremely probable.

The members of the College Science Society at their last meeting were proposing to form a photographic section, but it would probably be found that the two bodies could arrange to work as one, and a night for meeting be arranged to suit the convenience of all parties.

In addition to the students at the College, as the City affords such easy access from all parts, it is hoped that many amateurs, whose business daily brings them within the "one square mile" would be induced to join.

Will anyone who is willing to become a member, or who desires further information upon the subject, kindly communicate either with Mr. G. H. Powell, the Hon. Sec. of the Science Society at the College, White Street, Moorfields, E.C., or with yours faithfully,

WALTER BLIZARD.

105, Cambridge Gardens, North Kensington, W.

Dec. 12th, 1891.

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A SOCIETY FOR NORWICH.

SIR,—Being a beginner in the art of amateur photography, I read with very great interest the doings of the various societies who send reports to your valuable paper.

I wish something could be done in this city to awaken the amateurs to form an amateur photographic society, as I am sure that there are a number like myself who would be pleased to join, and would do all they could to further the interests of such a society. Trusting something will be done in this direction by next summer, I remain, yours truly,

AMATEUR.

December 9th, 1881.

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"PHOTOGRAPHY AT HOME" COMPETITION, 1891.

SIR,—The letter published in your issue of October 30th was signed "John E. Dumont" when it left me, and not "James Dumont," as published. In your issue of November 13th, just at hand, I find that exception has been taken to that letter by S. Francis Clarke, L.D.S. If my memory serves me right, your "Photography at Home" contest closed June 30th. To insure my pictures being in London by that date it was necessary that they should leave Rochester not later than June 18th (my entry form gives the date). On the day they left me they conformed to all the rules laid down in your entry form so far as I knew to the contrary, and an affidavit would have been made to that effect had you required it. On the entry form I stated that "Fabiola" and the "Formula" had been sent to Vienna. A full week later I received from Vienna the catalogue of their exhibition, and a circular saying that a list of the awards would be sent me as soon as made, that being the first information I had had from there, so I did not consider that my pictures hung at Vienna were really prize winners until several weeks later, when a letter from Vienna informed me that, "all the pictures hung being of such uniform merit, no prizes other than diplomas would be given, and that all the exhibitors would receive one," and as that information did not reach me until fully a month had elapsed after the closing of your entries, I did not, and do not, feel that it had any bearing upon your contest.

As regards the medal awarded me at Cardiff, I had not heard that there was to be an exhibition there at the time I sent you my pictures, and certainly could not know early in June that at an exhibition to be held in August my picture of "A Good Hand" would be given a prize.

In closing, I can simply say that my pictures should be governed only by the conditions which existed at the time I mailed them to you, and I shall feel entitled to and claim the medal awarded me by your judges.—Yours, etc.,

Rochester, N.Y., November 30th, 1891. JOHN E. DUMONT,

COPY OF DECLARATION.

Monroe County, City of Rochester.

I, John E. Dumont, of the City of Rochester, County of Monroe, State of New York, do solemnly swear that at the time the pictures sent by me to your "Photography at Home" competition left my possession I had no knowledge that any of them had been awarded a diploma or any prize at any exhibition, or that they would be awarded a medal at Cardiff two months later.—JOHN E. DUMONT.

Sworn to before me.—HORACE MCGUIRE, Notary Public, November 30th, 1891.

SIR,—By the kind courtesy of Mr. J. E. Dumont I have received a copy of his letter of explanation in reply to my letter published in the AMATEUR PHOTOGRAPHER of November 13th.

From Mr. Dumont's letter it is clear that the Cardiff award has not any bearing on the question, as that award was made after the closing date of your Competition.

As to the Vienna diploma pictures, "Fabiola" and "Formula," the hanging of which took place in May and was known in England long before the closing date of the Competition, I can only suggest that the decision of its bearing on the strict fulfilment of conditions must rest in your hands, especially as Mr.

Dumont appears to have given full notice that he had sent them to Vienna. Whatever your decision in this matter, I am sure it will receive the full approval of amateurs in general; and should you see your way to carry out the award of the judges, no one will more heartily congratulate the winner than I shall have the pleasure of doing.

In closing my share of this correspondence allow me to add that I feel fully convinced that Mr. Dumont had not any intention of going behind the conditions. But I think, in future competitions, competitors would do well not to enter their competing pictures in any other competition or exhibition until, at least, the last date for entering has passed. Such slight forbearance on their part will prevent any future chance of misunderstanding.—Yours, etc.,

FRANCIS S. CLARKE, L.D.S.

Louth, December 12th, 1891.

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PHOTOGRAPHIC SOCIETY OF GREAT BRITAIN.

SIR,—As the AMATEUR PHOTOGRAPHER is read by many who do not see any other photographic journal, perhaps you will allow some other view of the resignation of some of the prominent members of the Photographic Society of Great Britain, than that implied in Mr. Lyddell Sawyer's article in your last issue, to be laid before your readers. Mr. Sawyer blames the Society for allowing Messrs. Robinson, Blanchard, Davison, and Van der Weyde to secede from it.

Mr. Robinson's reason for resigning, Mr. Davison tells us, was that "the Council did not consider it its duty to do anything but approve" of the conduct of the assistant secretary in carrying out what he considered to be his duty. The duty which the assistant secretary had to perform was to request Mr. Robinson to retire from the Exhibition room during the hanging of the pictures, one of the managing committee having expressed his resolve not to continue work unless Mr. Robinson and others, not members of the committee, retired. The immediate cause of this resolve appears to have been Mr. Robinson's request, as reported to the last meeting of the society, that his own pictures should be hung in a certain place which had always been considered the "post of honour." Mr. Robinson appears to have retired upon an old bye-law which inferentially gave members of Council a right to be present at the hanging. In his own words, "I was in the gallery by right as a vice-president, a right provided for in the bye-laws of the society. He returned to the Exhibition room again, when, of course, the request for him to retire had to be more emphatically repeated. I may mention that the President has since declared that this so-called bye-law had expired with the Council that passed it many years since, and insisted so strongly on this that he refused to allow a motion to abolish it and others to be put at the Council meeting, when another resolution recognising that these "bye-laws" were defunct was substituted and passed.

With regard to Mr. Davison's pictures, the simple fact—which has been suppressed in the versions of the matter put forth by those who have attacked the Society—is that they were not sent in until two days after the date fixed as that on which pictures would be accepted. As several applications for extension of time had been refused, it was felt that it would not be fair to allow Mr. Davison's pictures to go in for medal competition against others which had possibly been hurried to comply with the regulations. Mr. Davison was informed of this, and refused to allow his pictures to be hung as not for competition. Upon this, and after waiting for the Hon. Sec. to have an opportunity of requesting Mr. Davison to reconsider the matter, the pictures were returned to him. It appears, however, that one of the members of the hanging committee, although informed of their late arrival, took upon himself to hang the pictures. This proceeding, however, did not damage Mr. Davison in any way, and it is clearly undesirable that any individual member of a committee should assume a right to overrule the regulations, and probably he did not intend to do so, but hung them merely as a temporary measure until a decision should be arrived at. The statement that the pictures were medalled is a picturesque addition to the facts.

As to Mr. Van der Weyde, his complaint was that his pictures had been medalled and disqualified for having been previously exhibited. His authority for his statement was a paragraph in some daily paper to that effect. Whence the paper got its inspiration is not known, but it was entirely groundless, as the simple

fact is that the judges did not award Mr. Van der Weyde a medal.

With regard to Mr. Blanchard's resignation, that appears to have been tendered in sympathy with Mr. Robinson, as was that of Mr. Lyddell Sawyer. Perhaps, if the latter had been aware of the facts, he might neither have resigned nor written as he has done concerning the Society. Presumably he cannot have known the facts, or he would not be a party to condemn the action of the Society, whilst knowing facts that were generally suppressed.—I am, etc.,

W. E. DEBENHAM.

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ALPHA PAPER.

SIR,—In reply to our friend, Mr. Hodges, in your last week's issue, I for one (and I think many more) would be very glad to have a quicker Alpha paper. I am now myself enlarging with the present very slow Alpha paper, but it is a tedious business with an enlarging "lantern," time occupied from fifteen to twenty minutes according to the density of the negative, then if one wants clouds in the picture another fifteen or twenty minutes; but even then it repays for the trouble, any tone one may fancy being obtained on the Alpha paper, whereas with the bromide we can only obtain a black and white, unless we put ourselves to a vast amount of trouble.

A. W. GOTTLIEB.

Shrewsbury.

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EXHIBITION RULES.

SIR,—Certainly "Fair Play," in your last, is not the only person by many who sees the totally "unfair" working of many of our exhibitions, where one or two continually send round a certain prize picture, simply to get it again medalled. In foot and other races, old and experienced prize men are always handicapped: why not so in photographic competitions, and give other workers a "fair play" chance? Apologising for occupying your space, yours, etc.,

A. W. G.

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THE WORLD'S FAIR.

SIR,—Some little time ago my attention was drawn to the fact that the classification for the Chicago Exhibition did not provide for the exhibition of photographs.

I wrote on the subject to the Director-General at Chicago, and he now informs me that the classification has recently been revised and is now in process of publication.

Photographs will be placed in the group devoted to instruments of precision, research, experiment, and photography. They will thus be included in the department of Liberal Arts, and not, as at Philadelphia in 1876, in the department of Fine Arts.—Yours, etc.,

H. TRUEMAN WOOD (Secretary).

Society of Arts, John Street, Adelphi,

London, W.C., December 14th, 1891.

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BRIXTON AND CLAPHAM CAMERA CLUB.

SIR,—As this club has just moved into new and larger premises, might we ask you to place the following facts before your readers.

It was established in March, 1889, and is open to both ladies and gentlemen, at a subscription of 10s. 6d. per annum.

The ordinary meetings, to which members are at liberty to introduce friends, are held on the first and third Thursdays in each month at 8 o'clock.

Excursions for practical work are held on Saturday afternoons during the summer, and there is an annual exhibition of work, to which every member is required to contribute at least six prints from negatives taken by himself during the preceding year.

The new rooms were opened on Saturday last with a reception, a report of which appears in another column.

Believing that there must be many of your readers in the district who are unaware of the existence of this club, is our excuse for asking you to insert this letter.—We are, Sir, yours truly,

A. R. DRESSER, *President*.

J. REYNOLDS, M.D., *Vice-President*.

F. W. LEVETT,

R. G. FENKIDSON

} *Hon. Secs.*

The Clarence Rooms, 376, Cold Harbour Lane,
Brixton, S.W., Dec. 14th, 1891.

Photographic Procedure.

By E. J. WALL,

Author of the "Dictionary of Photography."

SECTION III.

EXPOSURE TABLES, PHOTOMETERS, ACTINOMETERS, ETC.

Exposure (continued).—The difference in chemical intensity of the light in the course of a day is another point, and theory as well as practice has proved that the most intense light is on a cloudless sunny day about 11 to 12 in the morning; after noon the intensity sinks, because the heat of the sun has filled the air with aqueous vapour and the sun itself has begun to sink, and therefore its light, passing through a greater and ever-increasing thickness of atmosphere, loses in a marked manner its chemical activity, which resides, as we have already seen, in the blue and violet rays, which are more quickly, and in greater proportion, absorbed than the less refrangible rays. Professor Langley (Washington, 1884) has given the following results of the experiments carried out by him, as to the absorption of the different rays of the spectrum.

Ultra violet rays absorbed,	61 per cent.;	allowed to pass,	39 per cent.
Violet	58	"	42
Blue	52	"	48
Greenish blue	46	"	54
Yellow	37	"	63
Red	30	"	70
Infra red	21	"	76

From this it is obvious that the greater the thickness of atmosphere through which the sun's rays have to pass, the greater the absorption of the chemical or more refrangible rays.

The chemical power of the sun's light is, moreover, dependent on the absence or presence of dust, the height of the barometer, etc. Again, the wind has some influence, because when a dry north-east or east wind prevails, and prevents the condensation, or rather the increase, of the aqueous vapour, the chemical intensity of the light will increase; on the other hand, when a wet south-west or west wind prevails, the increase of the aqueous vapour will lower the intensity.

Clouds, we all know, play an important part in determining the duration of exposures, but there are clouds and clouds. Thin haze or mist, such known as "heat mist," lowers the chemical power enormously; yet optically there is little difference. The fine white masses of clouds floating in a blue sky rather increase than decrease the power of the light, in that they act as enormous reflectors of the sun's light. Generally, however, when the sky is cloudy and the sun not actually shining, the exposure is about three times that with the sun out; with a dull leaden pall of cloud the chemical intensity of the light may be reduced to one-fourth or one-eighth, or even more.

(2) *The Plate.*—The sensitiveness of the plate used is, unfortunately, one of those moveable factors which must be determined by the operator for each individual brand of plate he intends to use. There are two principal methods of commercially indicating the sensitiveness of plates, which are: (a) By saying the plate is "30 times" or "60 times." This means that the plate in question is thirty or sixty times as sensitive as a wet plate. But the sensitiveness of a wet plate is by no means constant, depending as it does on the purity or otherwise of the chemicals, the method of working, etc. (b) The second method is by means of Warnerke's sensitometer, quite as unreliable a standard as the first, as a plate which in the laboratory may show 25 deg. Warnerke may in practice prove at least slower than a plate which only showed 22 deg. in the laboratory. This being the case, practical experiments are the only true test.

The sensitiveness of a plate may be said to be dependent on the light to which it is exposed. Most of my readers know that the sensitive salt or salts of silver in the film are as a rule specially sensitive to one particular part of the spectrum, and that should the object on which the plate is exposed reflect but little of that particular light, the plate may be slow. But perhaps this may be better treated of under our next heading.

(3) *Subject*.—On this point I quote Mr. Alfred Watkins:

The Capacity of the Subject, or its most non-actinic part, for Reflecting Light to the Lens.—Experience teaches that an average exposure suitable for a medium-coloured object is insufficient for a dark terra-cotta bust, and, on the other hand, a white object requires a much shorter exposure, in order to render the delicate half tints; and an object in black and white (pen drawing, engraving, etc.) also requires a short exposure in order that the black part may have no effect upon the plate, hence there must be a variation in exposure to suit the subject. Great care must be taken not to mix up the question of darkness in lighting and darkness in the colour or tone of the object itself. A dark object, brilliantly lighted, may reflect an equal amount of light as a light object badly lighted, but in order to get accurate results, the two factors must be kept distinct in the mind. Most exposure tables, and several exposure meters, have made a terrible muddle on this point. Several instruments are based upon the idea that "an exposure should be in exact proportion to the amount of actinic light reflected from the subject, or its most non-actinic part." This presumption is an entire fallacy; it would be correct if the object of an exposure were to get an equal deposit or density in the negative for each class of subject, but it need hardly be pointed out that the object of photography is to show correctly the difference in the lightness or darkness of objects.

We may well here, I think, note the point of subject colour with regard to colour sensitiveness of the plate, referred to in our last note. If we have to copy, for instance, a yellowish object, and use an ordinary plate which is not sensitive to yellow, we must give a much longer exposure than when using a plate which has been "colour sensitised" for yellow, if, as Mr. Watkins states, we wish "to show correctly the difference in the lightness or darkness of objects." Further notes on this subject will be found under the section including orthochromatic plates.

(4) *The Diaphragm*.—The influence of the diaphragm or stop on exposure, we have already noted. See Diaphragm, Section II.

(5) *Distance*.—The more distant an object is from the lens, the less the exposure, other conditions remaining the same. This is the generally accepted rule, but it is extremely doubtful whether any actual experiments have been carried out on this point. I must again quote Mr. Watkins:—

"It may be taken as a general rule that, except when photographing near objects (less than twenty-four times the focus of the lens distant), or, on the other hand, extreme distance in landscape, no variation need be made for differences in distance. When a very near object is photographed, the camera has to be racked out, and the exposure increases in proportion to the square of the increased focus of the lens. When the subject is more than twenty-four times the focus of the lens distant (18 feet for a 9 inch lens) this variation is too minute to be taken into account, and if the air were perfectly clear—as it is sometimes among the Swiss peaks—all objects beyond that distance would require the same exposure. In England, however, the slight fog or mist almost always present in the air adds reflected light to objects more than one or two hundred yards distant, and thus decreases the exposure (it is impossible to express this by rule, as it depends entirely upon the amount of mist in the air)."

We might, perhaps, cavil at the arbitrary distance, twenty-four times the focus of the lens, which Mr. Watkins has fixed upon, as with longer focus objectives the focus would be appreciably lengthened at this distance. Thus, for instance, with a 24 in. lens the focus would be 25 in., and the ratio apertures of the diaphragm decreased from $f/8$ to $f/8.3$, but on reckoning out the exposure it will be found that they will be in the ratio of 64:68.9, or as 1:1 $\frac{1}{2}$, and Mr. Watkins may accuse us of hair splitting.

(To be continued.)

Instantaneous Photography.

By W. JEROME HARRISON, F.G.S.

CHAPTER XVII.

PRINTING FROM THE NEGATIVE.

IN photography generally, the production of a negative is but the means to the end. By long practice a photographer comes to look at a negative *naturally*. In his mind the lights and shades are correctly translated, and he not only views the picture as his eyes actually saw it, but is able at once to predict whether it will yield a good or a poor print. But to the general public a negative is a mystical thing; they laugh at the black faces of the people depicted; and cannot understand why the sky should be so dark.

But many photographers rest content with the production of negatives alone; and seldom—or never—produce from them the positive prints which they are capable of yielding. This is a great pity; and it would seem better for such workers either to use ferrotype plates, or to transform their negatives into positives by whitening them by immersion in a saturated solution of mercury bichloride. A glass negative which has been treated in the latter way, and then framed with a piece of black velvet behind and in contact with the glass, is a really delicate and beautiful positive representation of the object as depicted by the lens. Ferrotype plates consist of thin sheet-iron varnished and coated with a sensitive emulsion. Such plates have lately been much improved, and they have the advantage that a finished positive picture can be produced within ten minutes after the exposure has been made.

But any actual conversion of a photographic negative into a positive or correctly-shaded picture, as in the ways just described, ignores the best feature and most important use of the negative, which is that it may be made to yield an indefinite number of positives. One great defect of the old daguerreotype process—exquisite and permanent as it was—is, that the picture being produced upon an opaque metallic plate, this facility of reproduction was denied to it. But with our gelatine negatives upon transparent glass or celluloid, the reverse is the case; and any given negative is capable of yielding positive prints sufficient in number to supply the civilised world, and at but a very short notice.

Let us consider what printing processes have met with more or less approval from modern workers; and we will then endeavour to point out which are most suitable for the general run of "instantaneous" work.

TABLE OF THE PRINCIPAL PRINTING PROCESSES.

SUBSTANCE OF FINISHED PRINT.	HOW PRODUCED.	TITLE.
SILVER, either alone, or coated with Gold	Printed-out...	1. Sensitised albumenised paper 2. Matt-surface paper 3. Obernetter, Aristotype, Celero-type, and Ilford Printing-out paper
Do. Do.	Developed ...	4. Bromide paper 5. Kallitype 6. Transparencies 7. Opals
SILVER, coated with Platinum or Palladium, etc.	Printed-out...	8. Clark's process
PLATINUM ...	Printed-out...	9. Pizzighelli's paper
Do. ...	Developed ...	10. Willis's hot-bath paper
IRON ...	Developed ...	11. Blue or ferro-prussiate paper
CARBON ...	Developed ...	12. Carbon "tissue."

Of the twelve printing processes named, we may note the following characteristics :—

(1) There is far more uncertainty in producing good *developed* prints than in cases where the picture is "printed out." In the former case either no image at all or only a faint image is visible (before development), and much experience is required to judge the exposure accurately.

(2) The *simplest and cheapest* printing process is that upon "blue" or "ferro-prussiate" paper. After printing, the paper has simply to be washed in water and dried. But—except for sea and sky subjects—blue is not a very natural tint. A few sheets of "blue" paper, however, are a useful adjunct to a holiday trip, as they enable us to readily obtain prints when away from home.

(3) The process still *most generally used* is that upon "albumenised and sensitised paper." This gives good detail; but it is wanting in permanence.

(4) The gelatino-chloride printing-out papers differ from ordinary "sensitised albumenised paper" in the silver salt being contained in a coating of gelatine or collodion instead of albumen. They give remarkably good detail.

(5) The most *artistic*—and the only permanent—printing processes are those in platinum and in carbon.

In considering the suitability of the various printing processes for *instantaneous* work, it must be remembered that our negatives are usually of small size. This in some respects militates against the employment of the carbon and the platinum processes, which are better suited for large work. In instantaneous work it is also usually important to endeavour to emphasise the details. Now, for bringing out detail the gelatino-chloride paper is admittedly excellent. But prints on these papers are frequently spoilt by their extremely glossy (inartistic) surface, the result of the paper having been squeegeed down on *polished* glass. This may be avoided (and the detail maintained) by using finely-ground glass instead of polished crown glass.

For details of the various printing processes we must refer readers to books such as Wall's "Dictionary of Photography"* and Lyonel Clark on "Platinum Toning."† As we recommend the gelatino-chloride printing-out papers, we shall here briefly describe that method only.‡

The paper is printed in the ordinary way, by exposure to daylight in contact with a negative; and it should be printed rather deeply, or it loses a trifle in the subsequent operation of toning and fixing.

After printing, the prints are well washed for ten minutes in several changes of water. They are then toned in the following bath :—

TONING BATH.

Chloride of gold	..	..	2 gr.
Sulpho-cyanide of ammonium	..	..	25 "
Water	..	..	12 oz.

The prints must be frequently moved, and toning will probably be completed in from three to five minutes. The prints are then rinsed in two or three changes of water; fixed (in a bath containing hypo 3 oz. to water 20 oz.) for a quarter of an hour; washed for two or three hours in running water; and then allowed to dry. Drying should be effected in the first place by suspending the prints by a clip fastened to one corner, and attached to a string running across a warm room. After this the prints may be mounted in the usual way, by means of starch paste,

when their surface will be at least as glossy as that of an albumen print. We prefer, however, to moisten the dried and finished prints in water for two or three minutes, and then to squeegee them down upon ground glass (the same as is used for focussing screens) which has been previously thoroughly cleaned and rubbed over with a little French chalk or talc. They will dry again in about twenty-four hours, and can then be peeled off the glass and mounted.

Colour in Photography.

We learn from the "Bulletin du Photo Club de Paris" that at an extraordinary meeting of the above club held on November 25th, M. Baudran, an engraver of Versailles, made a communication of considerable interest to photographers, which we give in full for the benefit of our readers. M. Baudran first enunciated the principle that colour is in us and not in nature. Coloured light, as one learns from the experiments of Fresnel, Becquerel, Th. Young, etc., is only a peculiar vibratory motion of the ether; the length of the waves, and the rapidity of the vibrations impart to our retina different sensations varying according to the wave length and rapidity. To the slowest and longest corresponds the sensation of red, to the most rapid and the shortest the sensation of violet; the other colours are distributed between these two extremes. In examining daguerreotypes it has been generally believed that if they were viewed at the angle of incidence and illumination corresponding to the conditions of illumination when the proof was obtained, one could recognise a very plain sensation of the colours of the model or subject.

It has been asked whether this colouration was not the result of a molecular arrangement of the metal, an arrangement in which the amount of the deposit or its formation was not always in relation with the wave length of the coloured rays which caused the photo-chemical decomposition. We must note that this theory has been put forward at different times under diverse forms. Be that as it may, setting out on this principle, M. Baudran desired to investigate the colour of positives in silver in albumen, and he has used an apparatus to be made as follows: In a small dark-room or camera, provided in front with a half-plate lens, he placed a photograph—a portrait, for example. On each side of the print he arranges two mirrors which can be moved in every direction, and a third beyond. This apparatus is placed in a convenient aperture in one side of the laboratory, which must be absolutely dark, and directed to the sky. As the dark chamber is open behind, the light penetrates into the interior, is reflected by the mirrors, and brilliantly illuminates the photograph, as will be seen on reference to the illustration.

As everybody will see from this brief description, the apparatus is nothing more than a megascope, in which one is not content with illuminating the photograph so as to produce an enlargement on the screen, but in which it is possible to light the photograph under conditions approaching those which were employed for obtaining the proof.

The image considerably magnified is received on a screen, and on examining it one is not slow in recognising that it is coloured, feebly it is true, but sufficiently recognisable. They are, as defined by M. Chevreul, colours strongly illuminated by white light; if the lens is stopped down, the image becomes generally very faint, but at the same time the colours relatively become brighter because one has destroyed the effects of the marginal rays which are principally the white rays, or in other words a mixture of the coloured rays.

Certain conditions must be fulfilled for the complete

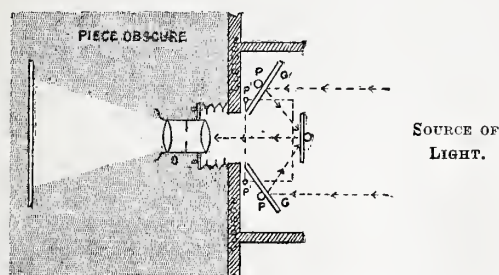
* Published by Hazell, Watson, and Viney, Ltd. Price 2s. 6d.

† Same publishers. Price 1s.

‡ This process is admirably and fully treated of in Mr. Woodbury's new book, entitled "Gelatino-Chloride Printing," published by Hazell, Watson, and Viney, Ltd. Price 2s.

success of the experiment, and they are as follows : The image must be distinct with its half-tones clearly defined, but without blocking up of the shadows ; since in the latter case the abundance of the molecules of silver prevents the normal diffraction of the rays of light, for, indeed, our readers must understand that this phenomena is caused by the diffraction of light.

It is obvious, on the other hand, that yellowness of the print, which is nothing more than sulphuration of the whole surface, is prejudicial to the production of the colours ; and if the particles of silver are imbedded in a film of some thick substance such as gelatine and enamelled prints or Aristotype prints, such good results are not obtained.



C.—Body of the camera moved by means of the milled head V, for focussing.

E.—Screen for receiving the image.

G.—Mirrors serving as reflectors.

I.—Opaque image to be projected.

O.—Portrait lens.

P.—Pivots allowing the modification of the inclination of the mirrors.

+ - + - + The path of the luminous rays.

- - - - - Inclined glasses placed behind the apparatus, moveable on the pivots P P'.

It is as well that the retina should be relieved from the effect of daylight, in order that it may be able to grasp without difficulty the faint appearances of colour.

M. Baudran also gave, at the same sitting of the Photo Club a general sketch of the method he has been employing for obtaining coloured prints, using ordinary negatives obtained in the usual way in the camera.

The inventor uses a sensitive excipient which he has discovered, and which he intends to retain as a secret. It is characterised by the following properties : it is transparent, liquid, and miscible with all colouring matters, but more particularly with all the oxide colours which are the base of oil colours. He covers a cloth stretched on a frame with a preliminary film of black pigment containing amongst other things such as bitumen or asphalte, and when this has been dried and insulated, he coats it in a dark-room with a film of his excipient containing the colours necessary for the formation of the picture, which colours have been determined by the aid of the apparatus described above.

The excipient is dried by the fire, then exposed underneath the negative, enlarged (if this is to be done), and exposed from five minutes to half an hour, according to the intensity of the light. This done, the picture is taken into the dark-room and rubbed with a sand, chemical in composition, and the picture thus mechanically developed. Those parts not rendered insoluble by the action of light are soon rubbed away ; at first the image appears of a neutral grey tint, but by continuing the friction, the colours are uncovered little by little and attain their complete hue ; the process is discontinued when this point is attained, as if the rubbing is continued the colour disappears little by little, and the mechanical action of the sand brings back the fabric to its primitive black tint.

The developed picture is carefully wiped, then covered with an oily substance, which, penetrating the oxides, transforms the film of powders into a picture in oils. The proof has not acquired all its value, the tints are feeble, and the operation should be repeated twice or several times, to give the colours full strength ; on the other hand, the negative has not given the colours except in the lights, and the shadows are given by the dark ground of the picture ; black is not a colour existing in nature. The inventor therefore uses a new film, and exposes this time under a positive, and the colours are reinforced as before.

It will be seen from this very brief description that the process consists essentially in superimposing on the picture a series of films of oxide colours, which in some degree are fixed by exposure under the *cliché* and developed by a mechanical process. The same process may be applied with zinc as a support, and, by replacing the oily substance by a convenient mountant, a sheet of paper may be placed in contact and by pressure the image may be transferred to the paper, giving a coloured print.

M. Baudran exhibited specimens of his work to the members of the Photo Club, in the shape of copies of a series of oil paintings.

Picture Exhibitions.

By "LOITERER."

THE NEW ENGLISH ART CLUB.

BELATED though it be, a brief allusion to the first Winter Exhibition of Modern Pictures held by the New English Art Club, at the Dudley Gallery, must be made. It was very plucky of the Club to venture upon the ordeal of two exhibitions in one year. I do not think it was as necessary as courageous. The first picture, "Despair," from the brush of Mr. McLure Hamilton, depicts a scene made lurid by the departing light of day, and displaying much power. The "Portrait of Miss Cobden" (4), by Mr. J. E. Blanche, is a splendidly life-like picture of the great reformer's daughter. "Le Miss Jane Cobden" (as the artist writes on the canvas) is seated in the attitude most familiar to those who have seen her at public meetings. "Sunset on the Solent" (5) is not a happy effort by Mr. M. P. Lindner. One might roughly suggest that a blown-out umbrella has floated up to the sky, and remained there as an awful example. Mr. F. W. Lawson's "Portrait of Sir Richard Temple" (9) is a great success. There are no signs of slumber on the face of the member for Evesham ! Mr. B. C. Baines contributes the next picture, upon which we cannot congratulate him. "A November Evening" (14) strikes us as showing Mr. William Estall at his best. Mr. W. C. Symons has a capital portrait—"Mrs. Tylor" (15). If we allude to Mr. A. C. Barber's sketch of "A Garden" (29), it is only to draw attention to one extreme of impressionistic art. Mr. Charles W. Furze sends a pretty "Design in Blue" (33). "Coal-barges" (36) is a picture by Mr. Paul Maitland, depicting them wrapped in a dense fog. Mrs. Walter Sickert deserves our gratitude for kindly lending a splendid sketch by E. G. Degas, entitled "Répétition" (39), in which there is action and actuality. Mr. Sidney Starr has a very happy "Study in Blue and Grey" (44), which is a distinct advance for him. We do not admire Mr. P. Wilson Steer's "White Wings" (45), in which red and orange young ladies are shown on pink sands. Mr. Walter Sickert sends a rather more clever than pleasing "Portrait of Mr. George Moore" (48). In Mr. George Morton's "Miss Dignity" (55) we much admire the daintiness of the portrait and its surroundings. Mr. John S. Sargent has a good sketch of a "Japanese Dancer" (64). Mr. Maurice Grieffenhagen has an admirable picture in "An Affection" (70). To my mind the picture in the room which will be most generally popular is Miss Ida Baumann's "Going to Mass" (73), which is extremely pleasing. The "Portrait of Sir Morell Mackenzie," by Mr. Sidney Starr, gives us a life-like picture of the great specialist in his consulting-room. One cannot resist praising

Mr. Otto Scholderer's "Peaches" (95)—hackneyed as these fruit-subjects are. There is much that is hopeful in the originality, so long as it is freed from deliberate attempts at eccentricity, in the efforts of the members of the New English Art Club.

MR. HERBERT SCHMALZ'S PICTURES.

Gazing on the great effort of Mr. Herbert Schmalz—"The Return from Calvary"—one is reminded of the fact that the places of Mr. Edwin Long and M. Gustave Doré are waiting to be filled. Few will deny that, of the rising artists of the day, Mr. Herbert Schmalz has a good claim to be considered their successor. At the Dowdeswell Galleries, in a darkened room, his splendid picture is now on view. The theme had been, so he tells us, in his mind awaiting realisation for many years. A visit to the Holy Land gave him what he needed—local colouring. The result is seen in the fine canvas "The Return from Calvary." He has chosen a scene of the great World-tragedy which has been depicted by other predecessors in a far different way. There is no extraordinary imagery, no mystical environment. There is much in the picture, but nothing which does not explain itself. All the details are finely painted. In the distance one sees the triumphal arch, under which a noisy crowd is passing. One almost hears the dull roar of their malignant shouting. The darkness overhanging the city is clearing away, and light is already breaking from the Cross. The figures of Mary and St. John are grandly conceived by the artist. There is power, pathos, and poetry in this picture, which should be seen by everyone. His "Pictures of the Holy Land" will also repay careful study.

MRS. EVELYN HEATHCOTE'S PICTURES.

"In Shelleyland" might be the title for a little exhibition at the Fine Art Society's Rooms, in New Bond Street. Mrs. Evelyn Heathcote has studied Shelley with the painstaking care of a disciple. The pictures now exhibited are the results, she tells us, of a holiday spent on that part of the coast—between Leghorn and Spezia—familiar to Shelley, among those features of the country that continually call to mind his verse. The pine forests where he used to ride are unchanged. You may see the deep pools made by the winter rains, you may hear the cry of the great woodpecker, and the far-off murmur of the sea, just as Shelley describes them in the "Recollections;" while the sea displays to those who have eyes to note her many phases, visions of enchanting loveliness, many of which we have known of old through the poet's words. We thus have the advantage of what Goethe tells us is so necessary:—

"He who would know the poet's mind
Must wander through the poet's land."

Mrs. Heathcote, in many cases, entitles her pictures with lines from Shelley, which are most appropriate to the subject. Thus to a beautiful picture of Venice, from the Campanile at Torcello, she appends the lines:—

"I leaned, and saw the city, and could mark
How from their many aisles, in evening's gleam
Its temples and its palaces did seem
Like fabrics of enchantment piled to heaven."

Mrs. Heathcote modestly remarks that "Shelley's finest lines can never be adequately illustrated," but she has succeeded where many would fail. In her pictures one sees "the first glow of the unrisen sun;" in others, "the bright star shining in the breathless sea," or a landscape "paved with heaven's azure smile." We congratulate her, and trust that the artist will still further add to our pleasure in the days to come.

LORD TENNYSON'S COUNTRY.

Appropriately following the above notice, comes mention of Mr. Edward Hull's successful attempt to trace in colour the landscapes from which our Poet Laureate has tinted his songs. Mr. Hull exhibits at the Japanese Gallery, 28, New Bond Street, a series of very pretty sketches which will be interesting to all those who are familiar—as who is not?—with Lord Tennyson's photographs in verse. As the poet truly says:—

"For words, like Nature, half reveal
And half conceal the soul within."

It is good to view the scenes which may have inspired the divine afflatus of the great poet. At the same gallery, we may mention, Mr. Herbert Railton has an admirable picture of Westminster Abbey.

Quarterly Examinations in Photography.

Question 29.—Answer the first four queries which appear in the AMATEUR PHOTOGRAPHER of January 9th, 1891, page 34.

ANSWER.

Query 4,430: ENLARGED COPY.—Will some one please inform me how to proceed to take a cabinet negative from carte de visite portrait?

Provided your camera is capable of being racked out to three times the equivalent focus of your lens the matter is simple enough. Pin the photo you wish to copy on a drawing board, or some suitable flat surface, and place it perpendicular on a table. Place your camera (which I conclude is large enough to take a cabinet negative) on the table, and carefully measure off one and a half times the equivalent focus of your lens on the table, starting from photograph; place the camera so that the centre of the lens comes directly on the point marked on the table; in other words, the centre of the lens must be one and a half times the focus of the lens from the photograph. Now rack out your camera till it is three times the focus of the lens, and you will have a picture twice the size of the one you wish to copy. The exposure is done in the ordinary way.

Query 4,431: ARGENTOTYPE AND SEPIATYPE PAPERS.—Can any of your readers give their experiences with these papers, saying what the results are.

Argentotype paper is a bromide paper for contact printing, giving very fine engraving-like tones. It may be described as being of finer grain than the ordinary bromide paper, and is for some purposes much more suitable. I found it to work very well and develop with great uniformity.

Sepiatype paper is a process that requires neither developing nor toning, and gives various shades of brown. In sepia all that is required after printing is to soak the print in water for ten minutes, and then fix in a weak bath of hypo, when it can be washed and dried. I found that the paper if kept long after printing had a tendency to mottle over, the sky especially being affected; consequently it is a *sine qua non* to finish the prints as soon as possible after printing.

Both the processes are most excellent ones and well worth a trial.

Query 4,433: BROMIDE PRINTS.—Having developed a number of bromide prints lately, I have several that are not a good colour. Some are too grey, others a greenish slaty colour, and a few are too black. Can I improve them in any way which will be worth the trouble?

The grey prints are most likely due to poor negatives—I mean negatives which are more or less veiled over—and consequently you cannot expect to get a good colour; also too strong a fixing bath is liable to produce a bad colour, and to omit the clearing solution in the iron development is always fatal to the prints. The black prints are evidently over-developed, and could be easily reduced as follows:—Soak prints in water for five minutes and then immerse in a solution of hypo 2 oz., water 20 oz. Take 10 gr. of ferricyanide of potassium (red prussiate of potash) and dissolve in 2 oz. of water. Add a few drops of this solution to the hypo solution until it has assumed a yellowish colour. Reduction can be at once stopped by removing print and immersing it in water.

THEO.

Question 30.—What is the action of iodine on a dry plate developer?

ANSWER.—Iodine has not the same effect on all dry plate developers, although, generally speaking, it has a tendency with all developers to retard development and reduce the contrasts.

With the ferrous-oxalate developer, iodine, in alcoholic solution, when added in small quantities, retards development, and gives images with less contrast, though the same amount of detail is obtained. When added to a pyro developer, the image appears more quickly, but the final result is not appreciably affected. If the iodine is added to the alkali before the latter is mixed with the pyro, it acts as a powerful retarder. To obtain diminished contrasts, a much larger quantity of iodine is necessary than with the ferrous oxalate developer. Mr. Lainor, of Vienna, has made some curious experiments on the action of iodine and the iodides in the eikonogen, hydroquinone, and pyrogallol acid developers. He finds that their action is entirely different from that of the bromides; these last increase the contrasts of the image, whilst iodine reduces the contrast, and if used in excess gives very flat negatives. A one per cent. solution of iodine in equal parts of water and alcohol is recommended by him, who asserts that two or three drops of the solution added to one fluid ounce of the developer yields very wonderful results. A restrainer known as "Wilde's iodine restrainer" is as follows:—

Iodine...	...	...	...	...	19 gr.
Alcohol (methylated)	...	...	...	...	200 minims.
Water...	...	...	...	...	200 "

Dissolve in the above order.

From 8 to 15 drops of this solution, added to 4 oz. of iron developer, is said to give great strength to the negative—rather a contradiction of the foregoing remarks.

THEO.

[Wilde's iodine restrainer was recommended for wet plate work.—THE EXAMINERS.]

Question 32.—Explain theoretically the objections to the use of a shutter in front of the lens.

ANSWER.—The objections to a shutter in front of the lens are (1st) that it is an impossibility to give an even exposure all over the plate, and to expose the plate in all parts at the same time; (2nd) that it is an impossibility to utilise the whole time that the shutter is open, as the exposure on the plate.

In other words, with an ordinary drop shutter the plate may, of course, be exposed evenly only to a certain extent, as the velocity of the shutter, when it nears the end of the exposure, must be greater than it was at first, because the law of gravity is bound to increase the velocity of the shutter, but, at the same time, the exposure at the top of the plate is given some time before the exposure at the bottom. With ordinary shutters which open from the centre, the centre naturally gets the largest exposure, and often these kinds of shutters cut off some of the light which would enter the lens near the sides, commonly known as the marginal rays.

THEO.

Question 33.—What is the action of excess of pyro, bromide, or ammonia in a developer?

ANSWER.—An excess of pyro, being the true developer, means greater contrast and more density, owing to the increased reduction of the silver salt. An excess of bromide checks the reduction of the silver salt and forms a compound with it, which is less acted upon by the developer; hence it causes slower development, greater contrast, and more density, until, if greatly in excess, the developer would refuse to act, and the image would be destroyed.

As ammonia is added to render the developer alkaline (action being scarcely noticeable without it), one effect of excess, naturally, is acceleration of development. If an excess of ammonia be added in the earliest stages of development, the effect will be a quick appearance of the image, and before sufficient density has been obtained, a general darkening of the plate, resulting in a thin negative, devoid of contrast and brilliancy, with fog showing in the high lights. In cases of under-exposure, ammonia may be used to force development of detail, but the fog point is soon reached, and the result is a hard black and white production, only fit for the dust-bin. The action of excess of ammonia, then, is to cause a greater reduction of the silver salt, even those parts unaffected by light being acted upon and general fog being the result, hence less contrast and less density.

PEN.

QUESTIONS.

- 37.—Forward a portrait taken by the flash-light, and describe the arrangement of lights, etc.
- 38.—Give a list of the works you consider most useful for an amateur.
- 39.—State your method of exposing and developing a plate on a snow scene. Send an example of your work.

Latest Day for Answers, December 21st.

RULES.

1. Answers must be received on the date stated each week in the AMATEUR PHOTOGRAPHER.

2. All answers must be preceded by the question, and should be written on one side of the paper only, and each answer must be on a separate sheet or sheets.

3. A *nom de plume* may be used, and must follow every answer, and be affixed to every specimen of practical work.

4. Answers are not limited in length, but preference will be given to concise answers without unnecessary amplification.

5. Those desirous of competing must apply to have their names entered. As these examinations are intended to encourage the study of the theory and practice of photography, authorities upon photographic matters and contributors to the photographic journals will not be allowed to compete.

NOTE.—No information of any kind will be given to competitors, and nothing but the answers must be included for the examiners. All other communications must be addressed to the Editor.

Marks will be given for all answers, and, when possible, the best three answers will be published. The answer will not be published till the week following receipt of the same, and the examiners criticise each answer sent in, and when no satisfactory answer is received, will supply one. Three prizes will be awarded at the end of each quarter. (Full syllabus on application.)

All communications to be addressed to—"EXAMINATION DEPARTMENT," AMATEUR PHOTOGRAPHER, 1, CREED LANE, LONDON, E.C.



Croydon Art Society Exhibition.—The annual exhibition and soirée of the above was held at the Public Hall, Croydon, on the 9th inst., when, besides a large collection of oil paintings and water colours, between forty and fifty photographs were shown, the Society offering a prize for the most *artistic* photographic exhibit; this was originally awarded to Mr. Frank Allen, but in consequence of this gentleman's work not having been done during the current year it was eventually given to Miss J. Moser, for three charmingly rendered scenes in Wales.

Exhibitions.

INTERNATIONAL PHOTOGRAPHIC EXHIBITION AT LEEDS.

[SECOND NOTICE.]

THE animal studies at Leeds are unusually fine, and Carl Greger is quite to the front in this department. There is not a bad picture in all he sends, and in most of them there is happy selection and no straining after violent effects. He knows the value of long shadows. This is well shown in a picture of men and horses going to a fair. There has been recent rain, for the lane is marked with sharply-defined cart-ruts, and the irregular shadows from an old hedge on the left fall half-way across the road. The group of horses and men stand out boldly in the early sunlight and cast long side shadows away to the right. The lights and shadows are well massed and there is no spottiness.

Jean Hallé has produced an uncommon effect in one of his sheep studies. The sunlight breaks through the trees in the background and casts weak, fan-like rays which fall here and there in the foreground, some of them falling on a group of sheep huddled together in the middle of the picture. It might be expected that the effect would be patchy, but it is not so. The light is so filtered by the dense foliage of the trees that it falls in thread-like rays and not in dense masses. In nearly all this gentleman's pictures the light is well in front of the lens, and the effects are very striking in consequence.

Mr. Sutcliffe has several spirited pictures in this class; perhaps the best is called "Setters." The dogs are eager for the start, and are only restrained by the strong will of the man. Their nervous earnestness is forcibly expressed. The poultry of Mr. Chas. Reid is distinctly alive, and so is the handsome sheep-dog by C. R. Wishaw. The horses, deer, and sheep in the same frame are all good, but the texture of the dog's lovely coat is simply beautiful. Mr. Hall's carbon enlargements of dogs' heads are hung on a screen and are rather too near to the floor to be readily seen. They are, however, well known by this time.

Mr. W. Wright has been very successful with his little picture called "The Trysting Steps." They are rudely placed, and little wild plants have snugly bestowed themselves between the imperfect joints. This steep path evidently leads into a wood. A gaithered swain is eagerly descending the steps, for he is evidently just a little late, and takes off his hat to an expectant maiden, who is coyly resting against the fence or railing below. The pose of the maiden is very graceful and unstudied. The chief fault of this picture is want of contrast. "A Japanese Study" has many good points, particularly in the costume and pose of the two figures; but why so markedly put dark material as background to figure in dark costume, and light drapery behind the figure attired in light dress? The picture is, in consequence, cut into two parts; a very small alteration in the arrangement of the background would have changed all this, and made a much more satisfactory composition. Mr. R. Terras, in his "Country Cousin," has departed from his warm-toned albumen prints and printed in platinum; but there is still the fault of undue blackness in the background, and the figures, instead of standing out from it, are swallowed up in its obscurity. Let him look at any good example of the old masters of the Dutch school—Ostade, for instance—and he will see how the background, by its varied light and shade, helps to give force and reality to the figures. Mr. Terras is such an earnest worker in the production of homely Scotch cottage interiors and well told little domestic stories after the style of Faed, that one would be glad to see him escape from this grave fault of everlasting preternatural gloom. "Sketching from Nature" has the same fault of too much blackness. It might be called a study of *still* life, for the face of the girl who serves as model is so apathetic and expressionless. "News of the Battle" is by far the best of Mr. Terras's productions. The composition is good, and there is not the fault of inkiness so prevalent in the rest of his work.

Shapoor Bhedwar has sent several that have been already described in these pages. One, however, without a title, is quite unlike his usual work. The figure is intended to represent the cellarer of some old monastery. The picture is strong in light and shade, and the accessories, composed of hampers, boxes, etc., make too much of a jumble. The expression on the face is anything but jovial, and would rather go to show that, like Joey Ladle, the fumes of the wine—evidently bad wine—had got into

the pores. He does not look content with the label on the bottle in his hand, and regards it as a case of fair promise without any disappointment within.

H. Blake has produced two capital little pictures, one called "Helping Mother," and the other "Good News." The *mise-en-scène* is one of those picturesque country back-yards so dear to the heart of Gale, only an uneven, roughly-paved court with pump and stone trough, a lead casement with diamond-shaped panes surrounded by a vine trained to a rough plaster wall, but well selected and thoroughly picturesque. In the first picture, a little girl is struggling with a broom whilst the mother is busy at the pump getting a fresh supply of water, and in the other a girl is half sitting carelessly but gracefully on the stone trough, and is busy with a letter. Work is forgotten, for a stone jug is very much *en evidence* waiting to be filled. Both these pictures are unpretentious but well carried out, and the light and shade admirable.

Smerdon Roe's "Sedge Gatherers" is a very original picture, and quite unlike, both in its proportions and general treatment of the subject, any other picture in this exhibition. It is very low in tone, and there is no sky line whatever. A man in the water nearly up to his waist is dragging an armful of sedge from the further bank of the stream towards the near shore, and two women are busily engaged loading up an old boat, of the burly proportions so well known in the Fens, with the same material. The figures appear to be busy and thoroughly unconscious, but there is plenty of evidence to show that the whole has been well thought out and thoroughly planned by the artist. The picture is an oblong of not less than three squares, but this unusual proportion quite suits the subject. All the superfluous material not helpful to the subject has been carefully cut away; and surely this alone shows the artist.

Prince Ruffo has probably done all that is possible in his attempt to deal with religious subjects by the aid of photography, but "The Holy Martyr" and "The Virgin and Child" only show too clearly how difficult it is to carry out such work.

Adam Diston shows "In the Gloaming," and another in the champion class, but he has besides, in the Genre Class, a new work larger in size and far more difficult in treatment, for he has attempted what all artists regard as most risky, viz., arrested action. Possibly he has succeeded as well as possible by photography, and we cannot help admiring his courage. The picture is called "A Deserter's Home—An Alarm." Some noise has apparently disturbed both the guilty man and his anxious mother, for both stand almost paralysed with fear, but with heads eagerly carried forward as though fearing yet anxious to hear more. The expression on both the faces is that of intense fear, and is perhaps best shown in the face of the woman; but the pose is exactly the same in both figures, and it forcibly catches the eye to the detriment of the picture as a whole.

Lyd. Sawyer's "Lighten our Darkness, O Lord" is well placed, and so is "The Last Rehearsal." The first is apparently considered the best, if onemay judge by the remarks of the on-lookers. The objection made to the lantern as an unnecessary article for the use of a blind man is surely foolish. The fact is overlooked that this, a veritable well-known street character, employs the lantern at night to show the passers-by that he is reading from a raised-type Bible specially made for the use of the blind. Of course, the lantern is a necessary adjunct to enable Mr. Sawyer to get his very striking effect.

Pattison Gibson sends four pictures all more or less showing his skill in the employment of figures in landscape. The best is certainly the one with the title "The Brook Crept Silent at our Feet." A lover leans against a pollard willow that occupies the right of the picture, and stands out dark against a silver stream that slants through the foreground. A maiden looks pensively down and is listening to hurried words from the pleading swain. Of course, he may have been thinking, "I wonder how long Mr. Gibson means to keep us in this spoony position!" but if so, it does not show in the photograph. The foreground is just a little marred by the cutting up of the light on the water by the woman's figure, but it is a very striking picture for all that.

Of Mr. Sandiland's four pictures, "Wanderers" is by far the best. An old woman—an itinerant imported from over the water—with an accordion is tramping along through the snow, and a little boy is wearily trudging by her side and holding on for a little support. The background is light, from the prevailing snow, and the figure stands out in strong relief against it. This is a very natural picture and it does not attempt too much.

NORTH MIDDLESEX PHOTOGRAPHIC SOCIETY.

The third annual exhibition of the work of the members of this Society was held in the Jubilee Hall, Hornsey Road, on Monday evening, when there was a crowded attendance of the members and their friends. The Society is flourishing, its numbers having increased during the past year from forty to seventy, and the exhibits increased in even greater proportion. There were hung on the walls no less than 236 pictures, as compared with 119 at the last exhibition. The general average of the work was good, more especially as regarded its technicality; but in one or two cases the attempt to introduce figures spoilt what would have otherwise made an exquisite picture as pure landscape. It is impossible, in the space at our disposal, to refer to all the particularly good work on the walls, so we must content ourselves with commenting upon those pictures which secured the awards of the judges, Messrs. J. Gale and R. W. Robinson. The first certificate was awarded in the landscape class to J. C. S. Mummery, for Nos. 26 and 146, both of which were views of an old man walking along a snowy road. We believe the judges also took into consideration this competitor's other work in the same class, all of which gave evidence of fine taste. If there be one fault that we can find in his work, it is that No. 26, half-plate, was printed on too rough a paper for the size of the picture. No. 39, "The Ember, Moulsey," by F. Cherry, was a fine platino, type, showing cows in a stream under the shadow of a large tree and well deserved the certificate awarded to it. J. McIntosh, Hon. Sec., secured a certificate by a warm brown print of a view at Moulsey, No. 69, a charming bit of selection. S. E. Wall, No. 70, "On the Avon, near Tewkesbury," was a good sunset effect, a man fishing from a house-boat occupying the foreground. In the Portraiture and Figure Study Class the first certificate was awarded to C. Beadle for No. 93, "Janet," a gelatino-chloride print of a girl's head. The head just came within the area of the cut-out mount, somewhat spoiling the effect, but the tone was soft and attractive. The second certificate was awarded to C. Gill for No. 83, "Portrait of a Lady." It was a platino-type print of a bust, the head being in profile lighted from the further side, making an effective and charming picture. In the Enlargement Class, the certificate went to C. Beadle, for No. 157, "In an Old Village," a fine enlargement of interesting old houses. In lantern slides, W. Taylor, took the certificate with slides Nos. 205 to 210, which were of good equal merit and technically excellent. We must, however, notice Mr. J. W. Marchant's (President) two sunset slides, which were exquisite. "On the Mole," a very bright sepia tone print on Alpha was daring but effective; and was appropriately framed. No. 111, "Moonlight on the Thames," was on a blueish green paper; it would have been better if the moon had been shown, as then the visitors would have known that it was meant for a moonlight effect. At nine o'clock after the visitors had had time to inspect the pictures, the competition slides were thrown on the screen, and some music was given at intervals during the evening. The exhibition was a great success, and we congratulate the members upon that fact, but would urge them as well as the members of other societies to make up their minds to send in at least one picture each to forthcoming shows. Such a course much relieves the officers of the club, who in some instances with which we are acquainted have great difficulty in getting enough pictures to make an exhibition.

FILLEBROOK ATHENÆUM (PHOT. SECT.)

The Photographic Section of the Fillebrook Athenæum is to be congratulated upon the success of its exhibition, held in the Fillebrook Lecture Hall, Leytonstone, on the 2nd and 3rd inst. The hall is a pretty one, and well adapted to the purpose. The visitors, who attended in large numbers, were enthusiastic in their praises both of the arrangement and excellence of the exhibits. The photographs entered in competition for the six silver medals offered were divided into three classes, viz., Direct Prints, Enlargements, and Lantern Slides. This division was irrespective of subjects or processes, and was only made to facilitate the judging. The medals were thus awarded to the best work sent in, which is not always the case with a large number of classes. The medals were placed as follows:—

Class I., Direct Prints.—"Sedge-Gatherers" (93), by C. Smerdon Roe; "Softly Falls the Evening Light" (101), John A. Hodges; "Driftwood" (161), Alex. Keighley; "By Shallow Rivers" (167), H. T. Malby.

Class II., Enlargements.—“Jetsam” (178), by Charles H. Cooke.

Class III., Lantern Slides.—Set of six flower studies (224), by Wm. Taverner; Set of six slides (220), Edgar G. Lee. (The medal awarded to No. 220 was an extra one, given by a friend.)

The following exhibits received honourable mention:—In Class I., “Spring Time” (100), by J. Kidson Taylor; “She Won’t go to School” (105), John E. Austin; “View near Horner, West Somerset” (118), Arthur Whitman; “Waiting” (171), A. Horsley Hinton. In Class II., “A Surrey Lane” (181), Thos. Clarke; “The Village Tinker” (201), R. H. Edwards. In Class III., Set of Slides (210), John E. Austin.

Alex. Keighley’s “Driftwood,” a beach scene, in which are several figures engaged in gathering wreckage, is, perhaps, entitled to the first place of all. The composition is very effective, though simple and natural, the distant cliffs and the reflecting pools in the foreground being beautifully rendered. Mr. Hodges’ “Softly Falls the Evening Light” is a 5 by 4 river scene, and may justly be described as a little gem. “By Shallow Rivers,” a half-plate print on the Ilford printing-out paper, toned a rich brown, is another pretty bit of woodland and river—a local view, by the way. “Sedge-Gatherers” consists of three figures, occupied as the title suggests, and though rather lacking in contrast is treated in a clever and original manner. “Jetsam” well carries out its title, representing a heap of rusty anchors and chains, in the midst of which lies a ragged urchin lazily toying with a stick. Mr. Taverner’s six slides of flower studies were exquisitely beautiful and technically perfect; Mr. Lee’s slides were excellent, especially “By the Old Mill” and “An Autumn Sunset;” while Mr. Austin’s rural landscapes were scarcely inferior.

There was a good show in the non-competitive section, which included twenty-four enlargements by Mr. A. R. Dresser, and a number of Mr. Ralph Robinson’s recent well-known pictures; Sutcliffe’s “Water Rats” and “Stern Reality;” several good things by Alex. Keighley, Paul Lange, and B. Gay Wilkinson, jun.; and some lovely platinotype studies of an East Coast Fishing Fleet, by H. W. Bennett; but the palm must be given to Mr. H. P. Robinson’s grand pictures, “Carolling,” “When the Day’s Work is Done,” and “Dawn and Sunset.” Though well known, these pictures are always worth seeing, and the last-mentioned is about as magnificent a photograph as could possibly be reproduced.

The slides were shown by a fine triple lantern lent by a local friend, and the 16 ft. screen, stretched on a light frame, was much admired.

The Committee intend to hold another exhibition next winter on a somewhat larger scale, and, judging by their first one, we may expect the second to be even more successful.

Notes from the Liverpool Centre.

ABOUT thirty gentlemen put in an appearance at the rooms of the Liverpool Amateur Association last week to hear Mr. Howson’s lecture on the new printing-out paper, etc., manufactured by the Britannia Works Company, which was attentively listened to.

I have just seen a remarkable series of pictures reproduced from first-class photographs by Paulussen, of Vienna. They are undoubtedly the finest collection in every way yet sent into this country. I intend to review them in full next week.

Several of our local workers here intend to hunt up subjects during the Christmas holidays, and are making preparations to that end. Matters photographic, though, are, on the whole, quiet.

The “Practical Photographer.”—Messrs. Percy Lund and Co., Bradford, have kindly sent us a copy of their “Christmas Double Number,” which is cleverly edited by Mr. H. Snowden Ward. It contains forty pages, and as it is published at twopence it is within the reach of all. Under “How our Leaders Work” we find a most interesting notice upon Mr. Richard Keene, of Derby, who is well known for his photographic work, which has received recognition all over the world. Mr. W. Whitehead writes an article upon “Back-grounds.” Another interesting article is contributed on “Psychic Photography,” and special attention is drawn to the work of Miss Power; the article is illustrated by “ghost” photographs. “Life and Work of Dr. Maddox” is especially interesting at the present time. The supplement contains two reproductions of photographs by Mr. Richard Keene, “Windsor Castle” and “Entrance Gateway, Moreton Old Hall.” The number is well worth the two nimble pennies asked for it.

Apparatus.

CRESCO-FYLMA.

ANY amateur who has ever tried to strip a film will know the difficulty of preventing distortion and irregular enlargement of the same; but Messrs. Hill Bros. and Freeman, of Victoria Road, Surbiton, S.W., have proved to us by a demonstration that it is not only possible to strip a film but actually utilize the extension of the film which too often takes place when one does not want it, by preparing two enlargements, one from a half-plate positive, the other from a half-plate negative, without the slightest sign of distortion or weakening of the image, as it is obvious that if you stretch the film of a positive it is unavoidably reduced in density by increasing the distances between the particles of silver forming the image. The process is extremely simple and easy, and the results are very fine. The inventors, who called upon us, placed a good transparency made by contact printing from a negative in their special solution, without any previous coating of the picture with collodion or anything else; after allowing it to remain in the solution for about ten or fifteen minutes we saw the film floating free from the glass, and it was then lifted out by aid of the glass, and slid off into a dish of clean water in which was placed a sheet of opal glass, which had not been prepared in any way whatever; the film was then carefully spread out and allowed to soak till all signs of wrinkles had disappeared, when on carefully lifting it out and draining off the excess of water, and blowing gently on the film to make it lie flat, we had a whole-plate opal picture, without the slightest sign of distortion, and which on drying we have found adheres as firmly as possible to the opal support, as though it were an opal made by direct contact printing from a whole-plate negative. This process is applicable to negatives or positives developed with pyro, ferrous oxalate, or hydroquinone, and gives equally fine results with all. On the importance and utility of this striking novelty we need hardly enlarge, as by its means any amateur will be able to enlarge positives or negatives to double the size, at least, with the least amount of trouble and expense. We have tried the process ourselves with solution supplied by the inventors, and have obtained at the first trial equally good results as when enlarging in the ordinary way. To the hand-camera man this process will be a great boon, as he may take his negative, which possibly may show some falling off of definition at the edges, and enlarge it by this method, and use the centre of his picture only. As a proof of good faith and of the successful results to be obtained, the inventors offer to enlarge a negative or transparency for any amateur for 1s. 4d., post free, and we can strongly recommend anyone anxious to obtain an enlargement without the use of enlarging apparatus to give this a trial. It is quite possible, by the aid of this process, to obtain a half-plate negative fully equal to the original in density and detail, and without the slightest stain, and from this enlarged negative to obtain a transparency by contact printing, and enlarge this transparency to whole-plate, and, by thus repeating the process, to obtain any desired size. To carbon workers this process forms an easy and ready method of obtaining enlarged and reversed negatives, thus doing away with the troublesome and messy process of double transfer.

PERCY LUND AND CO.’S “VISTA” MOUNTS.

THESE mounts, to which we have before referred, afford an easy method of utilising spoilt negative glasses in the mounting of prints. The mounts are supplied in shilling boxes, containing various numbers, according to size, of ornamental papers, with openings of various shapes, cardboard backing, and ring and tag for suspending the whole. The method of using is to thoroughly clean an old negative glass, and mount a print in optical contact therewith; a piece of the ornamental paper with an opening of the proper size is then selected, and the tag and ring attached to the cardboard backing. The backing is placed behind the print, the ornamental paper placed in the front, and the edges turned over on the cardboard and fixed there. The result is a charming little wall ornament, produced at small cost. For mounting twenty cartes-de-visite, 1s.; twelve cabinets, 1s.; six whole-plates, 1s.

Societies' Meetings.

Bedford.—In a numerously attended meeting, held in the Club room on the 11th inst., the President (Surgeon-General A. H. Beauman) in the chair, Mr. Smith delivered a lecture upon "The Kodak," describing its mechanism, and demonstrating its utility and advantages as a hand-camera suitable for almost every class of work. The lecture was illustrated by an extensive collection of slides prepared from Kodak negatives, and giving very fine examples in a great variety of subjects. The management of the lantern was entrusted to the experienced hands of Messrs. Kirby and Perrott-Smith.

Belfast Y.M.C.A.—On the 7th inst. the usual monthly meeting was held. The prints and lantern-slides in the last competition were on the table for inspection, having been judged by one of their leading English amateurs, with the following result:—W. Pollock, first prize, for a very artistically arranged picture of a country lane, entitled "A Summer Evening." Dr. Coates obtained second place with a view of "Ess-Na-Cruib Waterfall, Glanariffe, co. Antrim;" T. B. Scott third, with a well-selected "Harvesting Scene, near Lambeg." In lantern-slides T. F. Bell obtained first prize with three well-executed slides, the best being "Glenoe Village;" James A. Pollock second place, with landscape and river scenes; J. E. Pim third, with three views in Holland. The work of the remaining competitors in both classes was of a very good average merit, one, an instantaneous study, entitled "Stormy Weather," a yacht in a rough sea off Buncur, by J. A. Pollock, deserving special mention. A number of the famous instantaneous studies by Mr. Meldon, of Dublin, were on view, and excited keen interest among the members. The lantern was afterwards brought into requisition and a large number of slides passed through.

Birmingham.—The third of the series of elementary demonstrations was given at the Society's room on the 8th inst. Mr. F. J. Lyndon took the chair. Mr. Taylor outlined a description of the various emulsion processes which had been brought out, and showed some of the advantages attending their use. He exhibited some excellent prints which he had obtained with the new gelatin-chloride paper of the Ilford Co.; the results obtained by squeegeeing on ground-glass were also much admired. Mr. W. J. Harrison followed, and confined himself to the toning and fixing of the above paper; he mentioned that he thought the Company were well advised in bringing out the paper in the winter months, because of the necessity of using cold water if the alum bath be dispensed with. He thought in summer alum baths would have to be used. Mr. Harrison further showed the effect which could be obtained without any toning and by simply washing and fixing the prints; the resulting colour was thought to be very suitable for some subjects. Altogether both speakers were sanguine as to the success of the new paper.

Blackheath.—At the ordinary meeting held on the 8th inst., Dr. Ernest Clarke (a Vice-President) in the chair, Mr. W. H. Smith gave an excellent demonstration of the "Platinum Process," and developed several prints taken on the Platinotype Company's new paper, which being simpler to work than either the present hot or cold bath processes, and giving equally good results, should become popular. He also made several prints by means of the new lamp, burning magnesium powder in combination with oxygen and hydrogen, which is so brilliant that platinum or silver prints can be made when daylight is not available, as well as being useful for ordinary flashlight exposures in the camera. The next meeting will be held at the Alexandra Hall, Blackheath, on Saturday, 19th inst., when the AMATEUR PHOTOGRAPHER 1891 Prize Lantern-slides will be exhibited by Mr. Charles W. Hastings, the proceeds to be devoted to the National Lifeboat Institution.

Bolton.—The Photographic Society of Bolton have decided to make a photographic survey of the town on a most complete scale. All available old prints and sketches of Bolton will be secured, and when complete the work will not only prove interesting as representing the town as it is at present, but as it was in the past.

Bristol.—The third regular meeting of the 1891-92 session was held in the Literary and Photographic Club, Bristol, on the 4th inst. Mr. H. A. Hood Daniel presided, and there was a good attendance of members. The various items of business on the agenda having been transacted, and Mr. Wyndham C. Goodden, of 14, Berkeley Square, elected a member, the meeting was adjourned to the large smoking-room of the Club, where Mr. F. Bligh Bond (Hon. Secretary) gave a lecture on the "English Cathedrals," illustrated by a large variety of slides, including many lent for the purpose by the Editor of the AMATEUR PHOTOGRAPHER. The lecture was of a general character, as was necessary, and, while the lecturer laid special stress on such points as would be chiefly interesting to photographers, he was not unmindful of the various other interesting aspects in which these great monuments of our national life may be regarded.

Brixton and Clapham.—This Club held a reception on Saturday last, the 12th inst., to inaugurate the opening of its new quarters at

the Clarence rooms, 376, Cold Harbour Lane, Brixton, when some 150 members and friends were present. This large company met in the drawing-room, on the walls of which were hung a number of pictures taken by members of the club. There were also some portfolios containing bromide enlargements by Mr. Dresser which attracted much attention. At about 8 o'clock those present adjourned to the new meeting room, which had been arranged for a lantern exhibition. The Club lantern, which was manipulated with great success by Messrs. Levett (the Hon. Sec.) and Bervus, was used on this occasion. The President of the Club, Mr. A. R. Dresser, then briefly introduced Mr. Charles W. Hastings, who had kindly consented to show and describe the AMATEUR PHOTOGRAPHER 1891 Prize Slides. So much has been said of late concerning these slides that it would be futile to particularise here, but those by Mrs. S. Francis Clark in the Figure Class, by Mr. Dresser, who had gained a Gold Medal in the Landscape Class, and by Mr. Spiller in the Fine Arts Class, elicited considerable applause. At the conclusion of this part of the entertainment Mr. Dresser proposed a vote of thanks to Mr. Hastings for for coming, saying that he (Mr. Dresser) had in his time seen a good many slides, but had never seen so many which were of so uniformly high a quality throughout. He also congratulated the Committee and the Secretaries upon obtaining such fine premises for their future meetings, and expressed a hope that the membership would increase until they were obliged to take the whole of the premises to which their rooms were attached. It might be mentioned that this Club holds the honour of being the first London Society to see these slides, the Pall Mall Exhibition, of course, excepted. The company then returned to the drawing-room and partook of light refreshments, the arrangement of which had been kindly undertaken by Mrs. Kidson. After this a selection of music was given under the direction of Messrs. Bartrop and Butler, Miss Baxter sang "A Cluster of Roses," while Messrs. Brian and Speer gave "The Diver" and "The Vagabond" respectively. Mr. Siliba also contributed a violin solo, to all of whom the best thanks of the Club are due. A most successful evening, which answers well for the success of the Club, was brought to a close by the singing of the National Anthem.

Cambridge.—At the meeting held on the 10th inst., Mr. F. Morley, President, in the chair, a letter received from Mr. F. Brown, Hon. Secretary and Treasurer, was read, tendering his resignation, in consequence of his leaving the town, which was received with great regret. Mr. Geo. H. Potts, Carlyle Road, Chesterton, Cambridge, was elected to take the office. Other business was then proceeded with respecting a flashlight demonstration, also giving a free lantern night to the town, after which the proceedings closed.

Camera Club.—On Thursday, the 10th inst., Mr. T. R. Dallmeyer gave a description of his "New Tele-Photographic Lens." Mr. Francis Cobb occupied the chair. Mr. Dallmeyer gave an excellent description of the lens, referring to diagrams on the board. The object is to make possible the production of very large images of distant objects without cumbersome or extensive apparatus. This is most perfectly accomplished, as was shown by some wonderful comparative examples of objects photographed respectively by a 10 by 8 rapid rectilinear lens of 13 in. focus and by the new lens with the same extension of camera, the images by the "Tele" lens being five times the size of those obtained by the ordinary instrument. Much interest and admiration was excited by the subject and its presentation by the lecturer. Some remarks were afterwards made by Messrs. Traill Taylor, Elder, Hayman, and by Dr. Fison and Dr. Lindsay Johnson. Dr. A. H. Fison then followed with his subject, "The Application of the Optical Lantern to Scientific Illustration," Mr. H. E. Davis being in the chair. Dr. Fison showed how, by means of the lantern, beautiful and valuable experiments could be made easily visible to a large audience in a way unattainable by other methods. His practical illustrations included some excellent photographs of scientific apparatus and a series of experiments illustrating the subject of magnetism and electricity.

Cardiff.—At the weekly meeting, held on the 11th inst., Mr. C. F. Gooch in the chair, numerous slides, forming a collection, entitled "A Tour in Brittany," the work of Mr. A. R. Dresser, of Bexley Heath, were passed through the lantern. The views were taken with a hand-camera, and were of exceptional quality for instantaneous work. The series comprised the costumes and habits of the Britons, together with old houses, churches and crosses, etc., at St. Malo, Dinan, Quimperle, St. Pol de Leon, etc.

Cork Literary and Scientific Society.—At a meeting of the Literary and Scientific Society on the 10th inst., in the Crawford School of Art, Mr. Cunningham delivered a lecture on photography. There was an exceedingly large attendance of members. The lecturer's remarks were illustrated by experiments and views, which were shown with a lime-light lantern. A view showing the audience photographed was a special feature in the entertainment; everything was prepared in the course of the lecture, and the result showed a clear representation of those present. The lecturer treated his subject from a purely technical point of view, and delivered much valuable instruction to those practising the art.

Coventry and Midland.—Mr. H. M. Smith gave a demonstration in the Technical Institute, Coventry, on the 10th inst., before the members of the above society, of lantern-slide pictures from negatives taken upon the transparent rollable film by means of the Kodak hand-camera. Mr. Smith's illustrations of the camera in its latest patterns proved very interesting to the members. A new design in which arrangements were made to use either a roll-holder carrying a supply of sensitive film or ordinary dark slides and glass plates at will, was shown, and the pictures which were thrown upon the screen were of a decidedly high order for hand-camera work, and were much appreciated by the visitors. The pictures included many fine examples of architectural work—an extremely difficult subject for hand-camera artists. The demonstration plainly showed, not only that photographs can be taken by means of the Kodak held in the hand, but also that very good work indeed can be done with it. The lantern was worked by Mr. T. W. Owen (Secretary), assisted by Mr. F. J. Harker. Mr. Councillor Andrews (President) presided.

Derby.—The monthly meeting was held on the 8th inst. at Smith's Restaurant, Victoria Street. The minutes of the previous meeting having been read and confirmed, Mr. Thos. Scotton was called upon to read a paper, entitled "A Trip to the Isle of Man," illustrated by the lantern. Mr. Scotton very graphically described the journey (as the slides were placed on the sheet) via Barrow-in-Furness, returning by Liverpool and the well-known Derbyshire scenery. A series of "Isle of Man" slides were also shown by R. L. Warham, and miscellaneous sets by Messrs. Rowney and Smith. The whole of the slides were good and were much admired. A set of "Hand-camera" prize pictures were also exhibited. Mr. J. A. Pantan was elected a member. Mr. R. L. Warham presided.

Devonport.—At the meeting of the Club on the 7th inst. the attendance was highly satisfactory, and several new names for membership were handed in. Mr. J. B. Huddy, President, occupied the chair, and Mr. C. Harris read a very excellent and helpful paper on "Exposure." As a large number of the members are persons whose experience had not been lengthy, Mr. Harris pointed out what was desirable for learners to do, and what they ought not to do. As means to an end he thought that tables of accepted authority, such as those of Abney, Wormald, and Wheeler, might properly and advantageously be used until experience might render such not necessary, except under other than ordinary circumstances. His advice as to sticking to one make of plate, at any rate until some degree of experience had been obtained, was pretty generally admitted to be sound, and it was pointed out in discussion that it was just as important that one developer should be the rule for a considerable period. Mr. Harris pointed out that it was valuable to study the scenes which were to be photographed, with a view to obtaining the best results. He indicated a safe and reliable way for determining the counting of seconds, and showed by experiment that this was absolutely certain. In the discussion that followed the paper a large number took part, and the experiences that were given, as well as the advice conveyed, could not but be helpful to all interested in the entrancing art.

Dundee.—At the meeting on the 3rd inst., Mr. J. D. Cox (the President) in the chair, the slides sent in for competition were passed through the lantern. On the votes of the members present being scrutinised, the following were declared the prize-winners:—1st, D. Ireland; 2nd, J. D. Gibson; and 3rd, G. G. Maclaren. The American set of slides were next exhibited, many eliciting applause, and a number of slides were also shown by Messrs. Ireland, Kerr, Salmond, and Sharp. Two questions were found in the question-box: "What is the most effective manner of vignetting bromide prints?" The best result was obtained by using a deeply serrated vignetting mask, and kept in motion during exposure. "A landscape negative, on being fixed, was found to have a clear spot about the size of a threepenny-piece in the centre of some foliage. What is the best way to dodge the blemish in printing? The negative cannot be duplicated." By vignetting in from another negative a suitable piece of foliage, or block out the hole and work in the foliage with a brush on the print.

Ealing.—The first conversazione in connection with the Ealing Photographic Society was held at the Municipal Buildings on the 3rd inst., and the event served to show at once the extent to which the photographic art is practised by amateurs in our midst, and also the success of this comparatively young society in uniting them together in a common interest for mutual advantage. From every point of view the conversazione was a gratifying success, and may undoubtedly be reckoned in future as an annual event. Indeed, its very success was, paradoxical as it may appear, to some extent a drawback. About 250 invitations had been issued, and fully that number of guests were present during the evening, locomotion at times proving somewhat difficult in consequence. The exhibits, too, were so numerous that the ingenuity of the committee was taxed to the utmost to find room for them, and to arrange them in such a manner as to manifest their excellencies to the best advantage. The numerous exhibits were illustrative of platinotype printing, silver printing toned with platinum, and all the various processes

employed in connection with photography, the permanent processes being predominant. Dr. Common, one of the Vice-Presidents of the society, kindly lent a series of astronomical photographs, and the interest of the exhibition was further enhanced by the permanent autotype photographs, lent by the Autotype Company, and the exhibits lent by the Platinotype Company, and by Mr. Geo. Davison and Mr. J. B. Wollaston. Micro-photography was also represented. Although, as we have said, photographs of Ealing scenery were scarce, considerable attention was devoted to one by Mr. Taylor, illustrative of the "village" as it was, and representing the fair formerly held on the Green. Messrs. Mawson and Swan had on view a number of their improved apparatus, including the reflex camera, cantilever enlarging apparatus, magnesium flash lamp, and others. During the evening a series of lantern exhibitions was given, and some admirable music was given on the piano and violin by friends who had volunteered their services for the occasion. Light refreshments were provided. The company dispersed about 10.30, the guests before leaving heartily congratulating the committee on the success of the gathering.

Gulldford.—The usual monthly meeting was held on the 8th inst. at the Society's rooms, when Mr. E. A. Waddy, A.P.S., read a very instructive and interesting paper on "The Elementary Properties of Light and Lenses," illustrating his remarks by diagrams.

Hackney.—The usual ordinary meeting was held on the 10th inst., Mr. J. Reynolds in the chair. Prints were shown by Messrs. Gosling and Read upon the Ilford printing-out paper. Mr. W. H. Smith then gave a very interesting paper and demonstration of a new paper the Platinotype Company are about to bring out in about six weeks time. It was three or four times as rapid as the silver paper, and could be developed in a cold bath with biphosphate and oxalate of potash, using the usual hydrochloric bath as a clearer. The cost would be about three-halfpence for four half-plates and the results would be certain. He demonstrated the printing on this paper by artificial light, using powdered magnesium and oxy-hydrogen light; giving an exposure of fifty seconds with this light on negative, a fair print was obtained on development. The rough way in which he handled the paper, creasing it and then developing it without the least trace of line or mark, caused considerable astonishment. Messrs. T. Byrne and Badcock were nominated for membership.

Holborn.—The usual weekly meeting of the Holborn Camera Club was held on the 11th inst. at 100, High Holborn, Mr. Alfred Hodges in the chair. Mr. Arthur J. Golding gave a lecture on "Composition and Selection of Subject." The subject of his lecture, according to the Club circular, was "Composition," but he had found it impossible to keep it distinct from its sister subject, "Selection of Subject." The difficulty in separating the two subjects was that they must first educate the eye to see in nature what would form a picture, and, when that was done, to apply the leading principles of composition to it, which required constant study. The chief point in the selection of subject was what to avoid. If amateurs were to give a little more attention to that point they would have a better collection of prints. Their aim should be to produce work with which they do not tire, and he maintained that a good photograph would do this. It must always appear pleasant to the eye, not on account of its beautiful, shining finish, or its delightful matt-surface, but because it portrayed to the eye an impression of nature which was beautiful. At a Club outing they wondered what Mr. A. could be doing. He had focussed several things on which other members had exposed a plate, but he had apparently not exposed himself. He (Mr. Golding) would tell them what he was doing. He was looking for a picture, not a mere photograph. Amateurs should always ask themselves whether the image on the focussing screen would make a picture. He advised them to look thoroughly at the work of eminent artists, and try to find why they looked so beautiful. Mr. Golding impressed on those present to (1) avoid having the principal object in the centre of the picture, (2) avoid having the horizon in the centre, (3) avoid straight lines, (4) avoid repetition of lines, and (5) avoid an uninteresting and unbroken foreground. He gave a few hints on the introduction of figures, and concluded with a gentle rebuke to the members of the Club who were very fond of taking club groups outside a village inn. The same spot might be an excellent accessory to the villagers with their waggons and implements of agriculture, but he must certainly raise a protest against any member of the Club handing down to a future age the insinuation that, when out on their hobby, they were as bad as the proverbial cobbler or tailor keeping St. Monday. A little more seriousness in the work was all that was needed. On the 11th inst. Mr. Charles W. Hastings showed the AMATEUR PHOTOGRAPHER 1891 Prize Lantern Slides to a large and enthusiastic audience. Mr. Hastings made some remarks relative to the slides and photography generally, which greatly added to the interest of the proceedings. Subsequently a set of slides illustrative of the "Seven Ages of Man," by Mr. S. Francis Clarke, were projected on the screen. These pictures were awarded a Silver Medal in the "Photography at Home" Competition. About fifty slides by members of the Club were also shown.

Ipswich.—At the monthly meeting on the 9th inst. there was a large attendance to witness a demonstration by Mr. Howson of the Ilford printing-out paper and special lantern slides. After being introduced by Mr. J. Dixon Piper (President), Mr. Howson proceeded to exhibit a number of beautiful prints, showing the varied tones and degrees of gloss of which the paper is capable. He then toned a number of prints before the meeting, after which he proceeded to expose and develop four lantern plates (from a negative lent by one of the members), giving them exposures of very different lengths—one of them, indeed, he produced by the light of a wax match—and succeeded in making excellent slides of them all, a feat the value of which will be appreciated by all practical photographers.

Ireland.—Through the energy of the Council of this Society a highly creditable exhibition of members' work was organised and successfully carried out last week. The exhibition opened on the evening of the 7th inst., and remained open to the public every evening during the week. The pictures, which were very numerous, over 400, were all of a very high order of merit, and denoted a judicious selection of subjects and a care in working which as a rule is not found in the work of the average amateur. Especially deserving of mention was a frame by Miss White, representing a series of interiors, which for perfection of detail and excellence of finish could not be surpassed. Some exquisite large direct pictures by the President (Mr. Geo. Mansfield) were the subject of universal admiration, and two large pictures of the latter gentleman, and Sir Howard Grubb, F.R.S., past President, executed by Mr. A. Werner in his best style, met with unqualified praise. In a competition in connection with the exhibition, the following members were awarded prizes, viz.:—Enlargement, R. M. Inglis; views, J. White; hand-camera work, J. White; historical pictures (recommended), L. R. Strangways; lantern slides, 1st J. H. Hargrave, 2nd L. R. Strangways. A set of 100 quarter-plate pictures representing a tour in Norway was kindly lent by Mr. Wm. Swanston, President of the Ulster Photographic Society. Amongst the work deserving special praise may be mentioned that of Messrs. R. M. Inglis, N. Colgan, J. Kelsall, J. White, J. A. C. Ruthven, T. H. Orr, L. R. Strangways, M. Hedley, and A. M. Geddis. The annual lantern exhibition was held in the Leinster Lecture Hall, Molesworth Street, on Friday evening, and drew a crowded audience. The subjects were very varied, and, including the competition sets, the slides numbered over 220. The control of the lantern was in the hands of J. A. Ruthven, M. Hedley, and J. H. Hargrave. Altogether the Society may be congratulated on the success of its exhibition, a success which was altogether owing to the strenuous exertions of the Hon. Secretary, Mr. J. H. Hargrave, and Mr. A. M. Geddis, a member of the Council, who were appointed a committee to undertake the arrangements of the exhibition, and who, owing to the unavoidable absence through illness of the other members of the Committee, had the whole work of the exhibition thrown upon them.

Liverpool Camera Club.—The usual meeting was held in the College, Shaw Street, on the 9th inst. Owing to the general business occupying considerable time, the President (Dr. Webb) postponed the second of his series of "Half-hours with Elementary Photography." Mr. James Smith, however, gave a demonstration with Lancaster's "Mulum in Parvo," making an enlargement and reducing with splendid results.

Manchester Am. Phot. Soc.—The ordinary monthly meeting was held on the 8th inst., at the Athenæum, Mr. James Davenport, President, in the chair. Twenty gentlemen were elected ordinary members, and Mr. Charles W. Hastings, Editor of the AMATEUR PHOTOGRAPHER, was elected an honorary member. In answer to a question as to the safety of compressed gas in steel cylinders as used at the lantern meetings of the society, the President and Mr. Furnival gave their opinions as to the cause of the recent accident at Ilkeston (where gas bags were used), and stated that gas in bottles might be taken as absolutely safe? Mr. Howson gave a demonstration on the capabilities of the new printing-out paper recently put on the market by that firm.

Manchester Phot. Soc.—The usual monthly meeting was held at the rooms, 36, George Street, on the 10th inst., took the form of a social gathering. Mr. Abel Heywood, jun., presided, and there was a large attendance, including a number of ladies. Mr. Charles Lord was elected a member, and the Rev. Canon Beechey, one of the oldest members of the society, was elected an honorary member, as a token of the respect and esteem of his fellow members. The remainder of the evening was spent in the inspection of a large number of prints and transparencies contributed by Messrs. Coote, Cobby, Edwards, Thompstone, Wolff, and Wood. A fine lot of lantern slides, chiefly members' work during the past summer, was exhibited at intervals.

Manchester Stereoscopic Club.—The monthly meeting was held at the Brooklands Hotel, Mr. W. I. Cunliffe, President, in the chair. Mr. W. I. Chadwick read a paper on enlarging photographs from small negatives. He said there are two ways by which large pictures may be obtained. One is to take the picture large, but there are

few amateurs of to-day who would care to lug about a larger apparatus than whole plate, and even that is too heavy when on pleasure bent. The alternative method is to enlarge from smaller negatives. It might be thought by some that direct pictures are superior to enlargements, and fairly large pictures have been seen on exhibition on which was announced, "Taken direct; not an enlargement," just as though they were better for being taken direct. If sharpness and perfection of definition be desired, an enlargement from a small negative has many advantages, for it is a fact well known to those who have studied photographic optics that the shorter the focus of a lens the greater the proportionate depth of focus it possesses. What is meant by depth of focus is the power to render near and distant objects equally sharp and well defined on one plane. As to the kind of plates that are best he could say very little. All plates in the market are good if one knows how to use them, although for certain subjects some may be better than others. Many old workers maintain that collodion negatives are more suitable for amplification than those made in gelatine-bromide dry plates, and in some cases this contention is true, for there is a great difference in the image formed by variations in developing gelatine bromide plates. Slow development produces a much finer gradation, more suitable for the present purpose. The negative should be fully exposed, but not too dense; a rather thin negative is best, and in every way it should be as perfect as a negative can be made. Mr. Chadwick gave a practical demonstration, using a lantern with 5½ condensers and a three-wick oil lamp, the exposure being 2½ minutes. No trays or dishes were used, but the paper on which the enlargement was made was folded at the edges to form its own tray. After the development and fixing had been completed, the enlargement was passed round amongst the members, and it was universally admired.

Newport (Mon.).—On the 8th inst. an enjoyable evening was passed with members' slides. They consisted of local architecture, picturesque bits of Monmouthshire, results of the past season's outings, views on the local water-ways, portraiture, both amateur and professional, old castles, abbeys, cathedrals, etc. Messrs. E. H. Watts, L. Lockyear, T. A. Grove, J. A. Watkins, and F. Parsons contributed to the collection, the evening being wound up by a series from the President's collection. The plates chiefly used were Thomas's, Pall Mall, and Ilford Alpha and Special. The Hon. Sec. showed some very satisfactory results on the latter, the result of a first trial with that brand. Some printed and finished samples of Ilford printing-out paper were shown at the meeting and spoken well of, both for ease in working and toning and good finished effect.

Richmond.—Friday, the 11th inst., was a busy evening. The President, Mr. Cembrano, was in the chair, and the first business was the decision, by vote, of the "Outing Competition," that is, for the best picture from a negative taken at one of the Club outings during the past summer. About two dozen prints were entered, and the first place was secured by the Hon. Sec., Mr. P. Ennis, with a charming little view of Kew Bridge, one of the set of four which has just gained a medal at the Leeds Exhibition. The next function was the inauguration of the new Club lantern, an excellent instrument by Ottway, the selection of which had been judiciously entrusted to the President. This having been (more or less) solemnly dedicated to the use of the Club, its virgin light was devoted to showing the AMATEUR PHOTOGRAPHER Prize Slides, which the Club had been fortunate enough to secure thus early in their career. Needless to say, these were greatly admired and warmly applauded, not the least so being the admirable series of armour studies by a youthful competitor. The evening was brought to a close by the exhibition of a few slides by members, including an interesting portrait of Niepce, reproduced by Mr. Ramsay from a woodcut in an old French work of forty years ago.

Rochdale.—A lantern evening was given in the Public Hall, Baillie Street, under the auspices of the above society, when a number of prize slides were shown to a large and fashionable audience. The Mayor (Councillor Duckworth) occupied the chair, in the absence of Mr. John A. Bright, M.P. (President), who had consented to preside, from whom a letter was read by one of the secretaries, stating that he had been unexpectedly called away. The Mayor in a few remarks spoke on the usefulness of hobbies, saying that they were a good means towards bettering the young people that took part in them. The Rev. T. P. Spedding, assisted by Mr. W. Stott, manipulated the lantern, the pictures calling forth great applause, notably the flower, and cloud, and sea effects, also the flash-light pictures being greatly admired. During the evening Mr. Bright entered the room, and at the close said a few words in relation to what he had seen of the pictures, expressing his regret at not being able to be present at the beginning. This society is now in a very successful condition, numbering over sixty members, though only established last winter. The Secretaries (W. and S. Ingham) have got together a very good programme for this winter.

Rotherham.—A special meeting was held on the 8th inst., when the treasurer, Mr. James Leadbeater, read a paper entitled "A Peep

into Nature through the Microscopic Lantern." The various objects on the microscopic slides were projected on a screen having a disc eight feet in diameter. The lantern attachment to enable this operation to be successfully performed had been designed by Mr. Leadbeater himself. By its means several objectives can be in readiness for service, and a single movement is all that is necessary to bring any one of them into operation. Provision is also made for quick centering and focussing by rack and pinion. Not the least interesting part of the proceedings was the exhibition of the specimens of insects, etc., under various powers.

Sheffield (Optical).—A largely attended meeting of this Society was held on the 2nd ult., Dr. Manton in the chair. Some prize slides were exhibited and much admired by the audience, the many beautiful pictures evoking much applause. The President, Dr. Manton, exhibited what he termed a universal lantern possessing many features of interest suitable either for blow-through jet, ether or oxy-hydrogen lime-light, and equally adapted for the projection of transparencies or the demonstration of scientific experiments, the front carrying the objective slides on the extending principle of long focus cameras, the space between condenser and objective being entirely unenclosed. In practice it was found that there was no appreciable leakage or diffusion of light into the room. Perhaps the greatest novelty lay in the condenser $3\frac{1}{4}$ by $3\frac{1}{4}$ inch square, this being of course derived from a slightly larger condenser cut down and the superfluous arcs of circles removed, the slight loss of light resulting from the increase in focal length being more than compensated for by the power of this small condenser to project on the screen an *unmasked transparency absolutely free from colour* and clear to the edges. An unusually attractive evening was brought to a close by the demonstration of Scott's oxy-etho-benzine lime-light, and as the details of this new light are attracting much attention, somewhat full details are appended. A member having expressed a wish for a test, the request was granted. This proved that under the most trying circumstances the light is at least equal to its rivals. It was to be regretted that time and other circumstances did not permit of the conditions being reversed, the Scott light being placed in the "Swell" lantern and vice versa, but further experiments will be made and published shortly. The knowledge that the genial President, Dr. Manton, has been invited to give his well-known lecture on "Norfolk Broads and Narrows" before the Leeds International Photographic Exhibition has given much pleasure to the members of the Society.

South London.—At the ordinary meeting held on the 7th inst., Mr. F. W. Edwards, President, in the chair, Mr. Crouch delivered a very interesting and instructive lecture on "Lenses." The causes of spherical and chromatic aberration and the means adopted for correcting these defects were explained, as were also the conditions affecting depth of focus and flatness of field. The lecturer stated that true perspective was obtained with a wide-angle lens, and spoke very favourably of single lenses. Specimens of Jena and other glass were exhibited, and their properties discussed. In answer to questions, a variety of useful information was given to members. We are informed that Mr. C. H. Oakden, of 51, Melbourne Grove, East Dulwich, has been appointed Hon. Secretary *pro tem.* of the society, in place of Mr. T. W. Gardner, who has resigned.

Sydenham.—On the 8th inst. a most successful smoking concert took place at the head-quarters of the Club, the Greyhound Hotel, the President in the chair. The programme consisted of songs, recitations, and instrumental music. Among the performers were Messrs. James Budd, C. D. Budd, G. Brady, S. Chapman, J. Goldfinch, A. Pigott, A. Williams, and Dr. Reynolds. Mr. James Budd gave a good rendering of "Ho, Jolly Jenkin!" from "Ivanhoe," and Mr. Brady proved a very entertaining reciter. Part songs by the Messrs. Budd and A. E. Williams were highly appreciated.

West London.—An ordinary meeting of this society was held on the 4th inst., Mr. Chas. Bilton, B.A., in the chair. A letter was read from the Photographic Society of Great Britain in regard to the question of affiliation with that society, but consideration of the matter was held over. The rules of the forthcoming exhibition were read by the Secretary. Mr. John Howson then gave a paper and demonstration on Alpha paper. Having brought some exposed pieces with him, he proceeded to develop them before the meeting, and then toned and fixed them in a combined bath, showing the different tones obtainable by stopping the process at different times. The demonstration was watched with great interest by the members, and the prints brought by Mr. Howson were much admired. In answer to questions by Mr. Leslie Selby, Mr. Chas. Whiting, and Mr. J. A. Hodges, Mr. Howson said that fixing without toning would not affect the permanency of the prints, that the combined toning and fixing bath was to be preferred to the separate baths, and that the paper was too slow for direct enlargements in England, but was much used for that purpose in Italy and Australia.—On the 11th inst. the President, who was in the chair, announced the receipt from Mr. Pringle of a circular letter inviting subscriptions to the Dr. Maddox Testimonial Fund. He thought it a matter worthy of the attention

of all workers with dry plates, but the Council considered that it should be left to individuals to take such steps as they thought fit. The President then called members' attention to the forthcoming annual exhibition, and hoped they all would make strenuous efforts to make it a success. A new member's name having been announced for election at the next meeting, Mr. Charters White, M.R.C.S., proceeded to read his promised paper on "Photo-Micrography." After a few introductory remarks, the lecturer explained step by step the different details of the process. He showed how very simple a piece of apparatus was necessary, particularly in working with such low powers as $1\frac{1}{2}$ or 2 in. objectives, to which beginners should confine themselves. After speaking of the importance of evenness of illumination, freedom from vibration, and careful observation of exposures, he wound up his lecture with a display of lantern slides, representing histological, entomological, and odontological subjects, and a good selection of diatomacea. Mr. Hodges then brought forward a matter which he considered important to the Society, viz., the question of holding social meetings—outside the ordinary business meetings—to enable members to come together and discuss matters photographic and otherwise, and so cement more strongly the good feeling existing among them. The matter received strong support, and it was resolved to discuss the matter informally at the next ordinary meeting on the 18th inst., after the usual business.

West Surrey.—The usual fortnightly meeting was held on the 9th inst., a good number of members being present. Mr. F. W. Berry, as chairman, soon disposed of the ordinary business, after which he called upon Mr. Clarke for his demonstration upon "Toning of Silver Prints." Mr. Clarke, in opening his remarks, stated that he should tone the prints he had brought, about 120 in number, in about twenty-five minutes, and that with a minimum amount of gold. Mr. Clarke then went on to say that with an old acetate toning bath, he obtained warm purple tones with $\frac{1}{2}$ gr. of gold for each sheet of paper; the original bath he was using was made fifteen years ago. The prints were washed until they gave no definite trace of silver in the washing water. Then 2 oz. of a saturated solution of washing soda are poured into a dish of clean water, the prints are immersed one by one and well turned over for about five minutes. This water is carefully drained off and fresh placed in the dish. The toning bath is next poured out, $\frac{1}{2}$ gr. of gold added for each sheet of paper and mixed in with the hand, and by the time the prints have begun to separate in the washing dish, twenty or so are picked up one by one and thrown on to the palm of the left hand so as to thoroughly drain, then thrown face downwards into the toning bath in a flat mass. The prints are then fixed for about twenty-five minutes. The paper used by Mr. Clarke was a double albumenised, sensitised by himself; he claimed for this that it would not blister and would tone as easily and give colours equal to freshly-printed paper if allowed to stand for some months after printing. The next meeting takes place on Wednesday, the 23rd inst.

Woolwich and District.—The first lantern slide competition was held on the 1st inst., Mr. H. Kemp in the chair. Between forty and fifty slides were put through the lantern by Mr. Desforges, Messrs. Harris and Aspinall officiating as judges. The slides, as a whole, were of excellent quality, the prize being well earned by Mr. W. Dawes. Among others, Messrs. Desforges, Ince, and Southin gained a high number of marks.

Uttoxeter.—In connection with the Uttoxeter Amateur Photographic Society an exhibition of lantern slides was given in the Town Hall, on the 7th inst., by Mr. H. M. Smith, of London. The chair was occupied by the Rev. C. F. Barnwell, and the slides, which had been prepared from negatives produced by means of the "Kodak" hand-camera of the Eastman Photographic Company, London, were exhibited upon a large screen by Mr. G. Elley. Mr. Smith explained the mechanism of the Kodak camera, and showed that a person acquainted with the art may by its use take a large number of views, to be afterwards developed either at home or sent up to the company, from whom the pictures may be had in a finished state for just working expenses. There was a large number of people present.

Yarmouth Camera Club.—The winter session was opened at the 'Friendly Societies' Hall on the 1st inst. with an address by the President, Mr. F. Danby-Palmer, D.L., a lecture, etc. Invitations had been given to the members of the Cromwell Photographic Club to join those of the Camera on this pleasing occasion, and many were present. The President occupied the chair; among his audience were the Mayor and Mrs. Frank Burton. Mr. Smith gave an interesting account of the Kodak camera, exhibiting a large number of splendid views of English and foreign scenery, which had been photographed by means of that most handy little instrument, and which were well "lanternized" by Mr. C. Rumbold. A couple of very fine Indian pictures lent by the Vicar were also shown, and photographs of Old Bank House, Hall Quay, and the Old Haven Bridge, loaned by Mr. H. R. Harmer, were handed round and examined with much interest. Music was rendered by Mr. G. H. Lovewell Blake, the Misses Blake and Mrs. H. Blake.

To Correspondents.

All communications for these columns are to be addressed to **The Editor, "Amateur Photographer," 1, Creed Lane, Ludgate Hill, London, E.C.**

RULES.

1. Write clearly and distinctly on one side of the paper only.
2. Write each Query or Answer on a separate sheet of paper.
3. Write the name and address legibly on the back of each communication, and sign all Queries and Answers with name or *nom de plume*.
4. All matters for these columns MUST be received by **TUESDAY MORNING'S POST**.
5. The Editor does not undertake to answer questions by post.
6. In answering Queries, correspondents are requested to mention, in every instance, the number and full title of the query referred to.

QUERIES.

5295. **Retouching.**—Can any reader help me by giving name of firm which keeps a drawing book of the anatomy of the face?—**PERPLEXED.**

5296. **Enlarging, Book on.**—Will any reader tell me (1) the name and price of a really practical book on enlarging; (2) directions for constructing apparatus to enlarge up to 15 by 12 by daylight, using 7 by 5 R.R., $\frac{8}{16}$ in. focus; (3) whether slow or quick paper is preferable?—**LENSIGRAPH.**

5297. **Lens.**—Will some reader inform me of the cost, and the place where I can get an ordinary view-lens suitable for a hand-camera? Lens to work with large aperture and to cover a quarter-plate out to the corners.—**DARK CORNERS.**

5298. **Changing Bag.**—Having tried velvetten for the changing bag of a hand-camera, I find it lets the light through in very bright weather. Is there any solution I could coat it with to prevent this, or could any one inform me where I could get a similar material that would be impervious to sunshine?—**FOODER.**

5299. **Magnesium Powder.**—Can any experienced reader inform me what quantity (about) is required to take a good flash-light photograph?—**W. H. E.**

5300. **Plate Rocker.**—I shall be glad to know of the best plate rocker now in the market, the best and most efficient? Money is not a particular object.—**A. P.**

5301. **Backed Plates.**—As interior work does not seem to be successful when attempted without using backed plates; perhaps some of your readers could inform me if plates ready backed can be purchased anywhere.—**TERMINI.**

5302. **Chrome Alum and Alum.**—What is the difference between chrome alum and alum? What effect would chrome alum have upon a negative which is cleared with it? Would it do the negative any harm?—**ACHRODYNAMICS.**

5303. **Lanternscope.**—I shall be glad of full particulars for making a lanternscope.—**AN AMATEUR PHOTOGRAPHER.**

5304. **Lead Toning and Fixing Bath.**—Can any reader recommend the lead toning and fixing bath combined? I shall be glad of particulars and formulae, also the tone which this bath gives to albumenised paper?—**LITHO.**

5305. **Photographs of Celebrities.**—On passing through Brockenhurst station the other day, and strolling into the waiting-room, I was very much interested in some very fine photographs I found there of different eminent men. I am anxious to find out how such a number of valuable pictures could be hung there? Can any brother amateur photographer solve this mystery?—**COPTIC.**

5306. **Focal Ratio of Lens.**—Will any kind brother amateur let me know the focal ratio of the fixed spot which is fitted to the lens which is sold with Lancaster's half-plate Le Meritoire camera. A friend of mine tells me he has worked it out arithmetically and it comes to $f/21\frac{1}{2}$, but by my own working I find it is $f/32$. Will anyone kindly tell me which is the right?—**R. V. B.**

5307. **Hand-Camera, to Make.**—Would "E. G. S." or any other brother amateur kindly tell me how to make a hand-camera that I could carry on my bicycle. As "E. G. S." has made one, I should be very much obliged if he would give particulars of the way he made his? Also materials, and how much they cost, and where they can be obtained?—**R. V. B.**

5308. **Enlarged Negative.**—I should be glad if any reader of the **AMATEUR PHOTOGRAPHER** would tell me how to make a half-plate negative from a quarter-plate with a Griffith's enlarging camera, giving full particulars.—**AMATEUR PHOTOGRAPHER.**

5309. **Lens.**—Would a single lens $f/11$ do for flash-light work, or should I require a portrait lens? I have

a notion of getting a Hockin's portrait or their R.R. Which would be the best for studio and flash-light work? I have just completed the building of a dark-room with a studio attached, for home use.—**J. K.**

5310. **Flash Lamp.**—Are the lamps sold at 18. 6d. and 2s. 6d. by Adams, and Perken, Son, and Rayment, capable of doing good work?—**J. K.**

5311. **Elkonogen.**—Will any kind reader give me a universal elkonogen developer for Ilford dry plates and Ilford bromide paper?—**A. L. A. L.**

5312. **Group Taking.**—Could anyone give me any information as to the best way of taking a group of about thirty children in fancy dress costume at a hall? If by flashlight I should be very glad if anyone would give me the name of some flash-lamp suited for that purpose?—**K. M. W.**

5313. **Glazing Prints.**—Can any reader kindly tell me of a simple way to glaze prints? Is there no material that could be rubbed on them like polish is used?—**P. A. H.**

5314. **Filtering Developers.**—Should all developers be filtered after mixing?—**F. N. P. S.**

5315. **Enlarging.**—I have a large square camera 10 by 8. Can anyone tell me how to utilize this with a half-plate camera extending to 16 in., and a R.R. lens of $\frac{8}{16}$ in. focus for enlarging purposes?—**F. N. P. S.**

5316. **Stains after Intensification.**—I intensified a negative with bichloride of mercury and ammonia, but it became stained in the process. Can these stains be removed, and how? I omitted to state that it was developed with pyro and ammonia.—**F. N. P. S.**

QUERIES UNANSWERED.

No. 27.—Nos. 5243, 5247, 5250.

Dec. 4.—Nos. 5255, 5257, 5255, 5266.

11.—Nos. 5257, 5259, 5292, 5293, 5294.

ANSWERS.

5272. **Enlarged Negative.**—Enlarged negatives can be made if you have a camera with long-extension bellows, otherwise it is best to copy and then enlarge up to the size required. This is how I have done so far.—**W. H. ELLIS.**

5273. **Copying.**—The focal length of your lens is, probably, about 5 in. To copy a photograph full size, pin the original on to a board placed at 10 in. from the lens, rack out your camera 10 in. also (assuming the above to be the focal length), and you will get a copy (negative), same size, on exposing. The light should be brightly diffused. In some cases, such as with a very highly-glazed print, a side lighting must be employed. The exposure is difficult to estimate; so many things have to be taken into consideration. Try 30 secs. first with about $f/16$ stop, using ordinary plates. For reducing, proceed as before, but place the object about 12 in. from the lens (for a cabinet photograph), and rack the camera out 5 in. You will then see, by a little adjustment, the exact distances. Exposure will be a little less in this case. For enlarging, you must have a light-tight apparatus, or else work in a dark-room. Enlarged negatives are made by copying the original positive in the camera, making a transparency from that, and then an enlarged negative by aid of the camera. If you got Lancaster's Multum-in-Parvo camera and Wall's "Dictionary of Photography," your labours would be much lightened.—**PEN.**

5273. **Copying.**—This is impossible to do unless you have a camera with long bellows, or using a half-plate camera it is possible. This size is the most useful, I find.—**W. H. ELLIS.**

5274. **Teneriffe, Photographs of.**—Try at Spooner's, 379, Strand. Ask for Mr. Graham Foler's photographs: if he has not a complete set, he will tell you where to get them. Also for Howard Ross's photographs, apply to Sinclair, Hamilton, and Co., 17, St. Helen's Place, Bishopsgate Street, E.C.—**R. O. L. O.**

5274. **Teneriffe, Photographs wanted.**—I should advise you to try the Stereoscopic Company in Cheap-side, and in Regent-street, London.—**W. J. ELLIS.**

5275. **Capetown, Photographs of.**—See my answer to No. 5274.—**W. H. ELLIS.**

5276. **Mounted Prints Breaking when Bent.**—It is most certainly advisable to mount the prints on some fine canvas first.—**W. H. ELLIS.**

5276. **Mounted Prints Breaking when Bent.**—If you mount the photographs as you say, they will break at the fold and become very unsightly. Your best way will be to mount on thin cardboard with a joint and then fold over. If you live in or near London, I will mount them for you or give you personal instruction. Write me, address with Editor.—**H. B.**

5276. **Mounted Prints Breaking when Bent.**—The prints will be sure to break where bent after a little while. This could be prevented by mounting them with a little very fine linen or silk over the joint.—**FRED DAVIS.**

5277. **Developing Rapid Plates.**—I should say extreme under-exposure was the cause of your failure; $f/12$ is too small an aperture to use for instantaneous work, except in special cases. I suppose you performed all the manipulations correctly, such as, drew the slide, set the shutter, etc.? Ilford extra-rapid plates take much longer to develop than the ordinary.—**PEN.**

5277. **Developing Rapid Plates.**—How long did you keep your plates in the developer? Was your de-

veloper freshly mixed? If you can answer these two questions I can answer your query, otherwise I can only tell you that I do not think you kept your plate in the developer long enough; it ought to be in for 15 minutes.—**W. H. ELLIS.**

5278. **Lens.**—I should use a Wray's R.R. 5 by 4 lens with Iris diaphragm.—**PEN.**

5278. **Lens.**—I think a Wray's R. R. lens would suit you in every way.—**W. H. ELLIS.**

5278. **Lens.**—It is difficult to say, when there are so many first-class instruments to select from, which is "the best lens" for a 5 by 4 hand-camera, but "R.R." would certainly never regret taking a Wray.—**H. A. J.**

5279. **Cut Films.**—You can use them as you please. The uncut, of course, is perhaps best.—**W. H. ELLIS.**

5280. **Spots on Films.**—It seems to me you printed in the sun, or you used the film for printing from before it was quite dry. It is, I think, an impossibility to remove these spots.—**W. H. ELLIS.**

5281. **Positive.**—You could not possibly expose quick enough to daylight. To lamplight about 5 sec. I should think would be ample. You would get far better results using slower plates. The finest transparencies can be made on ground-glass plates coated with Thomas's lantern plate emulsion, which the makers will do for you any size.—**PEN.**

5281. **Positive.**—The exposure required would be, I should think, between three and four minutes, but I cannot tell you exactly. It is far better to get your own experience.—**W. H. ELLIS.**

5282. **Enlarging.**—The proper way to enlarge is to have an enlarging lantern, but I refer "Carbonate" to the **AMATEUR PHOTOGRAPHER** of October 2nd, 1891, vol. xiv., No. 365, where, on page 246, he will find I have given the fullest possible particulars on this subject. It is a very simple method, and will not want rigging up every time, and it will be found useful and handy at every time of the year; or, if he do not happen to have the **AMATEUR PHOTOGRAPHER** of that date, he might refer to Wall's "Dictionary," where there are, perhaps, more particulars in every way.—**W. H. ELLIS.**

5283. **Washing Gel. Chlor. Prints.**—The safest way is to lay the prints on a dish and let water continually run upon them.—**W. H. ELLIS.**

5283. **Washing Gel. Chlor. Prints.**—If "Carbonate" refers to the **AMATEUR PHOTOGRAPHER** of the 4th inst., he will find directions as to above.—**A. LEWIS.**

5284. **Copying Negatives.**—I have always copied my negatives in the way you state. First make a positive, and then another negative. It is, I think, the safest plan, and you are not likely to spoil so many plates in doing that.—**W. H. ELLIS.**

5285. **Ilford Ordinary, Rapidity of.**—In my opinion, Ilford ordinary are $\frac{2}{3}$ times as rapid as Fry's lantern plates, and three times as rapid as Eastman's bromide paper.—**W. H. ELLIS.**

5286. **Antipodes.**—For "all-round work," where expense is no consideration, I do not think there is any hand-camera to beat Beck's. The only exception I can take to it is that it is needlessly large, and perhaps the makers may be willing to rectify this.—**H. A. J.**

5286. **Antipodes.**—If "G. S. D." will call at Shew's, 80, Newman Street, Oxford Street, he will find a very excellent bellows hand-camera from quarter-plate to whole-plate, very light, for double slides or roll-holder, excellent lens. A new improvement is now made to raise the lens, giving less foreground. "E. R. L." advises Shew's cameras being seen before ordering any other; he has used one for plates 5 by 4 for two years, and had great pleasure from it; easily stowed away when not in use.—**E. R. L.**

5288. **Mounting.**—It is, I think, impossible to mount prints which have been squeezed on to glass without losing the gloss. It can be done by first mounting the print, and then using a burnisher, which is by far the best way to put gloss on prints.—**W. H. ELLIS.**

5288. **Mounting.**—There are two ways to do this and preserve the glaze. (1) Just before the print is dry on the glass, give the back a coating of mountant, apply the mount, squeeze vigorously, and allow all to thoroughly dry under pressure. The print and mount should then come away in a piece. (2) Whilst the print is on the glass, stick on it a piece of waterproof paper specially sold for this purpose; when dry, strip and mount.—**PEN.**

5288. **Mounting.**—You can mount the glossed prints in the way I described 23rd October, p. 298, provided the prints be perfectly dried after glossing.—**FRED DAVIS.**

5290. **Ground-Glass, how to Grind.**—The directions given in Wall's "Dictionary" are as follows:—"The following solution, spread on glass, has been suggested as a substitute for the ground-glass:

White wax 120 gr.
Ether 1 oz.

Fuller particulars can be obtained by purchasing this book, if you have not already done so. It is a book which is worth having, if you really intend to "go in" for photography; if you do not, never mind.—**W. H. ELLIS.**

5290. **Ground Glass, how to Grind.**—Procure from a watchmaker's grinding shop some finest washed emery. Put a pinch of this, together with a little oil, between two plates of glass, and rub them together. This will give you any degree of ground-glass effect.—**FRED DAVIS.**

5290. **Ground Glass, how to Grind.**—Take a piece of patent plate-glass the required size, and lightly rub over it coarse emery powder, made into a paste with water, using a small muller or other flat surface. As soon as the surface shows signs of roughness, wash off the paste completely, and use the finest emery obtainable till ground enough.—PEN.

5291. **Mounting Ilford Printing-out Paper.**—There would not be the least danger, providing the print were perfectly dry, as heat has no softening effect upon dry gelatine. Of course, the print is to be mounted directly the mountant has "set."—FRED DAVIS.

EDITORIAL.

SPECIAL NOTICE.—We are very pleased to find that replies in this column are so much appreciated, but we should be very grateful if those requiring advice would send their letters to us BEFORE TUESDAY MORNING'S post if possible. The time occupied in replying in this column is very considerable, and owing to the often late receipt of letters, many matters have to be left over each week. This we much regret.—ED: AM: PHOT:

H. R.—Vol. xiii. of the AMATEUR PHOTOGRAPHER commenced January 2nd, 1891, and it contains an index, which was issued with the number for July 17th, 1891.

AMATUS.—Your fault lies in under-exposing, and the paper you enquire about was read by Mr. F. C. Beach in New York, and reported in the AMATEUR PHOTOGRAPHER, March 25th, 1887, p. 143, vol. v.

W. G. G.—The strength of a saturated solution of hypo depends entirely on the temperature; at boiling point it is possible to dissolve 1lb. of hypo in 8 oz. of water, but as the temperature sinks, the hypo crystallises out, till at freezing point there is practically none in solution. Until you determine your temperature, therefore, you cannot state the strength of a saturated solution.

J. E.—Always number prints sent for criticism, please; we have numbered yours on back. (1) Would have been improved by the background being thrown out of focus. (2) The whites are a little too white. (3) You ought to have included the other end of arch, and the camera was not upright. (4) What is the object of interest? You might cut off an inch of the foreground and improve the picture. (5) Very fair. (6) You might have been much nearer with advantage. Lancaster's International would give you good results, and could be used for interiors.

TOM-TIT.—Either a Suter Aplanat A, No. 0, or a Swift Portrait Paragon, or a Voigtlander's Enryscope.

W. D. K.—(1, 2, and 3) Write to Messrs. Platt and Witte, Birckbeck Works, Birckbeck Road, Dalston, E (4) About 15 in. bellows. (5) Ilford platee are what are called 30 times. (6) The thickness of the bellows is less than 1 in.

J. BEARD.—You might try Johnson's or Piquepe's book on "Retouching;" either would probably give you the information you want.

H. CARTER.—(1) Over-exposed; negative requires intensifying. (2) It would have been improved by including the whole of the cottage and by a slightly sharper focus. (3) The subject is far too conscious to make a good picture. Acetate of lead does not improve blue prints.

ARISTOTYPE.—A one-solution eikonogen developer would probably give you better results, provided you added some bromide and diluted it well.

W. H. ELLIS.—We have now no back numbers. A fresh volume begins on January 1st and July 1st of each year, and an index is published the following or same week. Thank you for article, which we shall use.

A. C.—(1) Pour off the green solution and add some more acid to the gold that is not yet dissolved, and again beat till perfect solution is effected, then evaporate the solution by the sand-bath till it is perfectly dry and fuses, then dissolve in water and filter. You do not state whether the gold was 15 carat or what, so probably your best plan would be to dilute the acid green solution with a little water, precipitate the gold by adding solution of sulphate of iron, collect, wash and dry the gold, weigh it and dissolve in nitro-hydrochloric acid, then make the solution measure as many drachms as you had grains of gold. (2) Make a solution of nitrate of silver in distilled water—merely a grain or two will do, add a drop or two of the unknown acid; if it is hydrochloric, a dense curdy precipitate of chloride of silver will be formed, soluble in excess of strong ammonia. Nitric acid gives no precipitate under these circumstances. (3) Paste the waterproof paper and squeegee to print whilst still damp and on the plate, then strip and mount.

INEXPERIENCED.—Write to Dyson, Shambles Lane, Huddersfield, for samples of his cloth backgrounds, which are cheap and good.

MISS L. RIDLEY.—We do not know the developer, but have written to the makers.

J. F. H.—A longer focus lens will certainly give more pleasing perspective. You want a portable band screen to prevent too much top light for outdoor work. The date is not yet fixed, but not before March.

ART.—There is no work on the subject you name. Special bromide pencils may be obtained from most dealers in photographic goods.

S. W. O.—The camera has given very good results in

our hands, and we were quite satisfied with the plate-changing arrangement and the lens. The magazine chamber removes and the front of the camera racks out.

A. GROVES.—To avoid pyro stains dip the fingers into water acidulated with sulphuric acid. Solution of chloride of lime goes a long way towards bleaching existent stains. The slides can be fitted to any camera and are light-tight.

A. L. A. L.—We have had no difficulty in mounting on your mount by starching both mount and print.

FRANCO (Burma).—The bent-pipe arrangement you suggest, with a large ventilator in the roof, would be quite sufficient. There are no commercial ventilators. Aspinall's bath enamel will answer, but two or three coats are required.

F. A. H.—We shall be pleased to criticise negatives or prints for you after the turn of the year.

E. W. MALE.—Crouch would at once inform you whether the particular objective was corrected, if you sent him the number. (1) Focus as sharply as possible, then expose; if the negative is not sharp, it is not corrected. (2) The easiest plan is to rack in slightly and keep on exposing and racking in till you obtain absolute sharp result, then the distance racked in once determined is constant for that objective. (3) Yes, use the eye-piece. (4) Azaline is made for colour-sensitising ordinary plates, price about 2s. 6d. per oz. (5) The acid fixing bath has no deleterious effect on the permanency of bromide prints; it is quite different to introduce free acid into the bath though, hence the directions of makers.

A YOUNG AMATEUR.—(1) Place a sheet of thin yellow paper behind the negative (2) Watkins' exposure meter would probably answer your purpose. OMICRON.—(1) Washing-soda a handful, hot water a tubful, and a good hard scrubbing brush. (2) There is no simple way of coating dry plates; you must make the emulsion and coat in the ordinary way by hand. (3) The methods given are the simplest known. (4) Yes, the instruction is well worth getting.

H. C. HOLDEN.—(1) Use the following:—

Chloride of gold	1 gr.
Uranyl nitrate	1 "
Salt	15 "
Acetate of soda	15 "
Distilled water	8 oz.

(2) Yes, heat is certainly very likely to affect the plates, and may be the cause of the thinness and fog. Thanks for good wishes, which are heartily reciprocated.

J. B. HENRY.—The secretary of the Lewisham High Road Camera Club is Mr. B. Davidson, 62, Manor Road, Brockley, S.E. We have sent on your card to him.

J. FAULKNER.—Your communication is returned to the address given, Peckham Technical School.

Sale and Exchange.

RULES.

CHARGE. Twelve words or less for Fourpence

Every additional three words, one penny. The name and address of the sender must be paid for. (A single figure, or group of figures undivided by letter, space, stop, or words, counts as one word; compound words count as two words.)

ADDRESS.—All advertisements (which can be received up to Wednesday morning, 9 a.m.) and other communications having reference to the "Sale and Exchange" column, must be addressed "Sale and Exchange, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C."

CARRIAGE must be paid on all apparatus sent for report, and they will be returned carriage forward.

DEPOSITS.—The money for goods forwarded on approval may be deposited with the Publishers of the AMATEUR PHOTOGRAPHER, who will hold the amounts deposited until they are satisfied that the transaction has been completed to the satisfaction of buyer and seller.

COMMISSION.—A charge of 2½ per cent. will be deducted from all deposits whether a sale is effected or not. Minimum charge 1s.

PAYMENT. All payments are to be by cheques or Postal Orders, made payable to HAZELL, WATSON and VINEY, LD., 1, Creed Lane, London, E.C.

Bicycle.—Safety bicycle, Clincher pneumatic diamond, ball bead, perfect; price £11; worth much more; approval; deposit; also Humber diamond, ball bead, cushion tyre, £8.—7, Dereham Road, Norwich.

Burnisher, etc.—Splendid burnisher, very complete 10 in. roller, cost over £4, take 50s., nearly new; also new "Rubralux" lamp, 4s. 6d.—"A. Matur," 2, Isis Street, Oxford.

Cameras, Lenses, etc.—Quarter-plate camera, lens, and three double dark slides, 25s.; also half-plate camera, lens, and one double dark slide, 50s.—Taylor, 33, Victoria Road, Aston, Birmingham.

Dark Slides, etc.—Two mahogany half-plate dark slides (Underwoods'), perfectly good, cost 12s. each; also Thornton-Pickard shutter, cost 11s. 6d.; together, 20s.—Groves, Vicarage, Redcar.

Hand-Cameras, etc.—Samuels' hand-camera, holds 12 quarter-plates, time and instantaneous shutter, rectilinear lens; a bargain, cash, to immediate purchaser; 0s.; reason for selling, having two.—John Kirby Smith, Little London, Rawdon, near Leeds.

Kodak, No. 4 regular, cost over £11 when perfect, containing a few films, in case; and tripod films; some unexposed film; what offers?—May be seen at the AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.

Beck's 12-guinea hand-camera, quarter plate, with guinea umbrella tripod; £7 7s.—No. 235, AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.

Stern's Waistcoat detective camera, in leather case; what offers cash? or exchange for Thornton half-plate shutter or good background.—W. Cole, Grantley Street, Grantham.

Lancaster's Omnigraph, best leather; cost 25s.; perfect condition; 19s.; carriage paid.—Storey, Woodford House, Keswick.

Lanterns.—Magic lantern, Russian iron body, 4 in. condensers, achromatic front lenses, powerful Duplex lamp, gives a good 10 ft. picture; only 27s. 6d.—E. Jackson, 71, Oxford Street, Manchester.

Optimus binial lantern, only used once or twice, complete, including best safety jet and G-way dissolver, 4 in. condensers, and best objectives, in lock-up travelling case; cost £8 2s. 6d.; will take £4 10s.—Harold Senior, 88, Norwood Road, S.E.

Lantern, 4 in. condenser, triple wheel, in excellent condition, with box, suitable for enlarging; £2 15s.; unredeemed pledge.—Fellows, Pawnbroker, 207, Deritend, Birmingham.

Optimus 45s. Russian iron lantern, 4 in. condensers, rack work lens, brass tubes and front, 3-wick lamp, with case, new last season; 30s.—H. S., 192, New Cross Road, London, S.E.

Lenses, etc.—Splendid half plate rapid R.R. doublet lens, equal new; only 13s. 6d.—2, Hawthorn Villas, Slad Road, Stroud.

5 by 4 rectilinear lens, 25s.; Leviathan ditto, iris diaphragms, 35s.; 5 by 4 wide-angle rectilinear, 27s. 6d.; Optimus lantern lens, 10s.—59, Kippoch Street, Cardiff.

Negatives.—Quantity of quarter-plate negatives, by amateur giving up, make charming lantern slides; 6s. dozen; specimens 5d.—F. G., 243, Bristol Road, Birmingham.

Sets.—Underwood's half plate 1891 camera, two mahogany slides, Optimus 8 by 5 rapid rectilinear lens, in case, instantolux shutter, 4-fold mahogany tripod, finder, in splendid condition, cheap; £5; cost £9; Editor's approval.—M. Helliar, Dorset Villa, Yeovil.

Lancaster's half-plate instantograph, latest improvements, with changing box for 12 plates, lens, shutter, and tripod, £9 10s.; Lancaster's detective Omnigraph patent, for six quarter-plates, 15s.; French portrait lens, whole-plate, £2 10s.—Biddle, 97, Medlock Street, Manchester.

Good half-plate camera (Photographic Artists' Association), four double slides, batz-lined case, water-proof, as new, £5; also half-plate Warnke roll-holder, takes Eastman's film, 17s. 6d., bargain, good condition; Marlon's 8 in. burnisher, cost 28s., take 10s.—A. L. Spiller, Hillside, Hampstead Hill Gardens, London.

Thanks for answers. Purchased. Exchange portrait set, 9 by 7 (Horne and Thornthwaite)—H. Thomas, Uxanton, Haverfordwest.

Given up. Immense bargains. Will not be offered again. Cyclists' lantern slide camera, every movement, six slides, lens, and stand, cost 84s., price 35s.; Lancaster's Omnigraph detective, 14s.; half-plate canvas camera case, 38s.; Lancaster's half-plate M.I.P. camera, 11s. 6d.; ditto whole-plate combination M.I.P., 27s. 6d., new.—M. Newhouse, 99, Victoria Terrace, Lancaster.

Camera, half-plate 1891 instantograph, warranted good as new, and finest order throughout, double extension, reversing back, all improvements, instantograph lens and shutter, double dark-slide, quarter-plate carrier, and folding stand, complete set; take £3 12s. 6d.; approval.—H. Webb, 31, Woodville Lane, Walthamstow.

Half-plate instantograph camera, dark-slide, tripod, and R.R. lens, new; bargain, 68s.—53, Slad Road, Stroud.

Sundries.—For sale, good 7 in. condensers, nearly new, price 35s.; also 3-wick lamp, price 7s. 6d.—Apply, Fraser Tydler, 103, George Street, Edinburgh.

Electrical and philosophical apparatus in fine condition, for disposal at low prices; gentleman amateur reducing collection; descriptive list, three stamps. M., 20, Belsize Crescent, Hampstead, N.W.

Wheatstone's baritone English concertina (orchestral), 48 keys, finest steel reeds, nearly new, cheap.—M., 20, Belsize Crescent, Hampstead, N.W.

Bargain, iron head rest, 5s.; large ruby lamp, 5s.; printing frames, dishes, and other useful accessories cheap.—A. Bracy, Northcote House, Front Road, Thornton Heath.

Tapestry curtains, two pairs, large handsome flowered design, unsoiled, suit studio or otherwise, 17s.—7, Dereham Road, Norwich.

Magnesium lamps, 6d. each, postage 3d.; magnesium, 2d. per yard, 1s. 6d. per dozen; particulars free.—Humphries, 29, Grafton Road, Holloway, London.

Optimus dark-room gas lamp, 5s. 6d.—H. S., 192, New Cross Road, London, S.E.

WANTED.

Backgrounds.—A few backgrounds, cheap for cash.—Charles Powell, 165, Tylorstown, Pontypriid.

Cameras, Lenses, etc.—Good half-plate camera and lens, complete, in exchange for silver hunter English watch, or sell, 50s. — Burras, 153, Whalley Range, Blackburn.

Hand-Cameras, etc.—First class hand-camera, by good maker. — Send full particulars and price to W. Walker, Scotchmore, Nottingham.

Lancaster's quarter-plate wide-angle lens, for instantograph camera. — Horrex, 3, Burnham Terrace, Richmond, Surrey.

Lens (by Ross or Dallmeyer), cabinet, with rack and pinion and stops, short focus, and quick; will give English hall-marked silver patent lever centre seconds watch and hall-marked silver Albert, equal to new, and

10s. in cash, or lowest cash price on approval.—Veneer, 158, Broad Lane, Sheffield.

5 by 4 R.L. lens, 5½ in. focus (by Dallmeyer, Ross, or Wray), cheap.—Stobbs, Royal Exchange, Leeds.

Sundries.—Blow-through jet, cheap for cash.—H. Willoughby, Army Clothing Depot, Finslico.

CHRISTMAS CARDS,

Gold Blocked Fancy Edges, for Mounting Photographs on. Sample Packets, 1s. and 2s. Cash returned if not approved of.

HOOPER & CO., 5, Hand Court, Holborn, London.

My SPECIAL CHRISTMAS BOX contains—

Two bottles of my Special Developer sufficient for three shilling bottles, Best Developer ever produced; one bottle of my Special Toning Solution, with other compounds for making the best Bath you ever used; and one sheet of Finest Sensitive Paper cut free to any size. To introduce my Specialities I will send above lot, packed and carriage paid, on receipt of P.O. for 2s. 6d. This offer only extends to the end of December. A well-known Amateur writes: "Send me double case of Developer. It is certainly the best I ever used."

Address, THOS. HALL, Photo Works, Lancaster.

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PHOTOGRAPHIC QUARTERLY.

Price 2s., the October Issue of the

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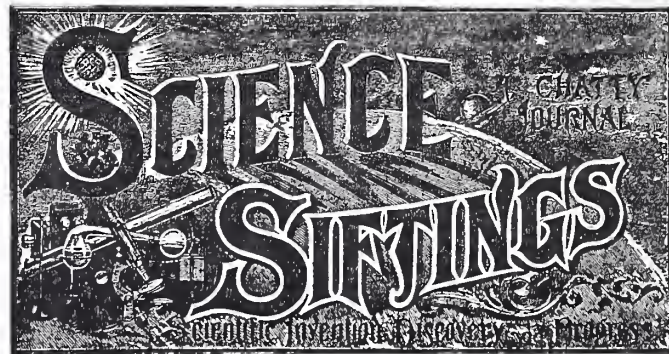
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No. 377. Vol. XIV.]

FRIDAY, DECEMBER 25, 1891.

[PRICE TWOPENCE.]

OUR VIEWS.

"To hold as 'twere the mirror up to nature."—*Shakespeare.*

OUR VIEWS.—A Home for the Edinburgh Photographic Society—Contents of the January *Photographic Quarterly*—The AMATEUR PHOTOGRAPHER'S Prize Slides at Sheffield—*Hearth and Home* have a Photographic Competition—The Brixton and Clapham Camera Club—West London Photographic Society—The Use of Methylated Spirits—Edinburgh University Photographic Society—Life and Work of H. P. Robinson—Obtaining Goods under False Pretences—Exhibition at Aberdeen—Competitions for 1892—The Leeds Photographic Exhibition—The Unnecessary Multiplication of Photographic Societies.

LEADERS.—The AMATEUR PHOTOGRAPHER Ladies' Second Photographic Competition—Enlarging by Extension of Films.

ILLUSTRATIONS.—"A Shropshire Lane" (Mrs. Hignett)—"Lilac and Lilies" and "Granny's First Lesson" (Mrs. S. Francis Clarke).

LETTERS.—Photographic Society of Great Britain (H. P. Robinson—Henry Van der Weyde—Lyddell Sawyer)—Multiplication of Societies (Hon. Sec., London and Provincial)—Society for Norwich (Amateur No. 2.)—Urgent Orders (Dollond and Co.)

ARTICLES.—In a Provincial Studio (Loiterer)—A New Method of Preparing Resinized Paper—The First Medal (Peter Pinhole)—The Incandescent Gaslight.—The Study and Practice of Art in Field Photography (Horeley Hinton).

EXHIBITIONS.—Leeds—New York.

REVIEWS.—Principles of a Photographic Lens (R. and J. Beck)—Spring at the Italian Lakes (G. E. Thompson).

QUARTERLY EXAMINATIONS.

SOCIETIES' MEETINGS.—Aberdeenshire—Bolton—Bristol and West of England—Brixton and Clapham—Camera Club—Devon and Cornwall—East London—Edinburgh—Fairfield—Faversham—Frome and District—Herefordshire—Holborn—Lantern Society—Newcastle-on-Tyne—North London—North Surrey—Oxford—Richmond—Sheffield—Stockton—West Kent—London—Wigan—Yarmouth—Yorkshire.

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TERMS OF SUBSCRIPTION—

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"Amateur Photographer" "Holidays with the Camera" Competition (Second Year)—Prizes: Gold, Silver, and Bronze Medals, and Certificates; with special prizes of "Niepce" or progressive medals for past prize-winners. In all, *twelve prizes* will be placed at the disposal of the judges.

SUBJECTS.—All photographs are eligible that have been taken during the "Holidays," but must be landscape or sea pieces, with or without figures, views of town, photographs of cathedrals, churches, public buildings, etc., but not *portraiture, figure study*, or pictures which could be classed as "Photographs at Home."

DATE.—All photographs must be received on or before the 31st of December, 1891.

RULES, CONDITIONS, and ENTRY FORMS will be forwarded on receipt of stamped addressed envelope. The application should be addressed, "HOLIDAYS WITH THE CAMERA," Editor, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C.

THERE is a good deal of talk in Edinburgh photographic circles over the proposal of the Edinburgh Photographic Society to acquire a habitation for itself. The proposal meets with universal acceptance, and consequently there is good ground for holding the belief that before the winter is over something tangible may be done in the way of making the society worthy of its former days, when it was the leading light among photographic societies.

THE January number of the *Photographic Quarterly* will include articles on the following subjects: "Photo-Micrography," Hon. J. G. P. Vereker (illustrated); "Impossible Photography," H. P. Robinson (illustrated); "How to Manipulate Printed-out Silver Gelatino-Chloride Papers," Clement J. Leaper, F.C.S.; "In the Border Country," W. Gibbons (illustrated); "Photography not Art," Dr. P. H. Emerson, B.A., etc.; "The Kinship of Art," Alfred Maskell; "Light and Shade," John Andrews; and "Clouds in Landscape Photography," by George H. James.

THE *Sheffield Daily Telegraph* of the 17th inst. says: "A gathering of great interest to all interested in the art of photography—which means anybody who has an eye for the beautiful—is fixed for January 20th. (Note the date, please!) The slides on view will be of exceptional excellence, being the winning sets of a recent competition amongst amateur photographers open to the world, and producing something over a thousand exhibits. The competition was divided into four classes, and the gold, silver, and bronze medal and certificate awarded in each. This exhibition of prize medal lantern slides (AMATEUR PHOTOGRAPHER 1891 Prize Slides) is to be given in the Montgomery Hall, and Mr. Charles W. Hastings, of the AMATEUR PHOTOGRAPHER, will visit Sheffield specially to deliver the descriptive lecture. The gross proceeds are to be devoted to the Sheffield Lifeboat Fund, all the expenses being generously defrayed by the three local societies, viz., Camera Club, Optical Lantern Society, and the Sheffield Photographic Society. One thousand tickets have been issued at sixpence each, and very many are already sold. Sir William Leng has acceded to a request that he should take the chair."

WE are asked to notify that in connection with that enterprising paper *Hearth and Home*, a department has been started for "Lassies and Laddies," and it is intended to offer prizes for photographs by competitors (divided into

two classes) under eighteen years of age. This week's issue of the paper will contain full particulars of the first competition.

THE letter published last week from the executive of the Brixton and Clapham Camera Club has had an excellent result. Six new members were elected at the last meeting, and five more will be proposed at the meeting to be held on the 7th prox. The Club deserves support, and it has certainly quarters which for accommodation and convenience will compare with any of the suburban photographic societies.

THE members of the West London Photographic Society will hold a conversazione and exhibition of members' work on the 8th and 9th of January in the Lecture Hall, Broadway, Hammersmith. We understand that Mr. H. P. Robinson, Mr. Valentine Blanchard, and Mr. G. E. Cooke have consented to act as judges. The West London has always ranked as a thorough working society, and we have no doubt the members will send in some excellent work, and that there will be a most successful gathering.

A CORRESPONDENT to the *Manchester Guardian*, Mr. John Ambler, writes:—"It may not be generally known that on January 1st next a recent Act of Parliament enforces the addition of half per cent. of coal naphtha to methylated spirit. This will have the effect of making the methylated spirit undrinkable—which is the aim of the Act; but for some commercial purposes it will be useless. I would therefore remind users to lay in a stock before the new year, especially those who use it for photographic purposes."

This is a matter which deserves attention at the hands of our readers. In photography methylated spirit has many uses, and the adulteration with naphtha is likely to have a most damaging effect upon the spirit.

THE Edinburgh University Photographic Society has settled down for what promises to be a session of good work. They have re-elected Dr. Drinkwater as President, and Dr. J. R. Paterson as Vice-President; and these gentlemen, with Messrs. Thomson and Pearce as Secretaries, should be able to see all the work before them well done. Dr. Drinkwater is a genial President, and the members of the society take advantage of this, which is one of the best qualities a President can have. On Monday night they held a social evening in the University Hotel, in which business was eschewed and pleasure was the ruling element. That the meetings are not all pleasure and no work is fully testified to by the members having opened a studio and rooms in Bristo Place, where they can meet for social or business purposes at any hour. They have, besides the studio and common room, an ample provision of dark-room accommodation, which is a matter of great importance to young men living in lodgings. The society has issued a syllabus of their work for the winter, from which we observe that Dr. Paterson is to treat, on January 11th, of Photographic Apparatus and Processes; Mr. J. R. Whit, on February 8th, will, with the aid of a lantern, give an account of a Tour in Norway; Dr. W. H. Barrett, on March 14th, will address them on Photo-micrography; Dr. Drinkwater, on May 16th, will practically illustrate Daylight Enlarging on Alpha and Bromide Papers; Mr. F. D. Todd, on June 13th, will speak upon Exposure Meters; and there will, besides, be another social evening on July 11th, and competitions in lantern slides, grouping, land or sea scapes, figure subjects, animals, fancy and instantaneous work. This is sufficient to show that in prosecuting photography the members do not intend to allow the grass to grow under their feet.

MANY of our readers will be pleased to hear that Mr. Charles W. Hastings has in preparation a very instructive and interesting lecture "The Life and Work of H. P. Robinson," which will be illustrated by some sixty or seventy of his best known photographs. The lecture will be ready for delivery by about the middle of January, and Mr. Hastings will be glad to hear from secretaries of photographic societies who may be wishful to make arrangements with him for the delivery of the lecture. It will be well in every case to give three optional dates. Not only will the lecture give most practical teaching on "Picture Making by Photography," but it will embrace the experience and recollections of Mr. Robinson's long connection with photography both as an artist and a writer. Possibly no man has such a record as has Mr. Robinson, and Mr. Hastings will handle his subject in such a manner as to make "The Life and Work of H. P. Robinson" the most successful lecture on photographic matters yet attempted.

IN our correspondence columns we publish letters from Messrs. Dollond and Mr. W. Whiteley, showing how one "Howard" has been endeavouring to obtain goods by false pretences. We insert the letters in order to warn manufacturers in the provinces as well as in London.

WE understand that a small exhibition of photographs is being held in connection with the Trades' Council meeting now sitting at Aberdeen.

IN next week's issue of the AMATEUR PHOTOGRAPHER a full list of the projected Competitions for 1892 will be published.

THE attendance at the Leeds Photographic Exhibition is, we understand, exceedingly meagre. The *Bradford Observer* says:—"This may partially be attributed to the inclement weather of last week, but even taking this into account, it has not made up for the lack of interest shown. Lectures have been delivered, illustrated by pictures thrown on the screen, but these have failed to arouse any degree of enthusiasm." We do not know how our contemporaries were treated, but neither invitation to the opening ceremony or Press view ever reached us, nor have we to this day received a copy of the catalogue. Our report is written by a gentleman fully qualified, who happened to visit Leeds upon other business and kindly undertook our commission.

WE publish a letter from the Secretary of the London and Provincial Photographic Association with regard to the proposed City of London College Photographic Society. It does seem to us that, unless the projected Society has some very special work to do in connection with the College, those students interested in photography would learn more and reap far greater benefit by joining the London and Provincial than by starting another society. The Association hold a weekly meeting, the subscription is only some 5s. per annum, there is an excellent library, and always a good paper or demonstration before the meeting. We note that on the 31st a discussion will be started on "Warm Tones for Lantern Slides," and on the 7th of January Mr. P. H. Newman will deliver a lecture on "Some Recent Exhibitions." The Council of the Association always invite visitors, and we should strongly advise those who are responsible for the projection of a City of London College Photographic Society to visit the London and Provincial before doing anything more in the matter.

TO ALL, A MERRY AND HAPPY CHRISTMAS.

THE "AMATEUR PHOTOGRAPHER" LADIES' SECOND PHOTOGRAPHIC COMPETITION.

LAST week we reproduced two of the series of photographs contributed by Mrs. Hignett to the "Ladies' Photographic Competition," and we now give yet another, "A Shropshire Lane." All the photographs contributed, for which it will be remembered she was awarded a Gold Medal, are landscape, and in most of them figures are introduced. Mrs. Hignett shows much care in selection, her technical work is perfect, and down to the mounting and finishing she proves herself an artist.

We also give two reproductions of photographs by Mrs. S. Francis Clarke, who was awarded the Silver Medal in the competition, "Lilac and Lilies" and "Granny's First Lesson." Mrs. Clarke devotes herself almost entirely to figure studies, and although she has not the advantage of working in a studio she has turned out some admirable work all taken out of doors with improvised backgrounds, light screens, etc. Mrs. Clarke is, we believe, the only lady who has taken a medal for lantern slides, certainly she is the only lady amateur photographer who has been awarded an AMATEUR PHOTOGRAPHER medal for slides. Mrs. Clarke took her photographs on "Castle" plates with a "Paragon" lens $f/8$ and $f/6$. The negatives were all developed with pyro and ammonia.

Mrs. Hignett used Wratten and Wainwright's plates, giving exposures with a Wray's lens, with stops varying from $f/22-6$ to $f/45$. This lady also uses pyro and ammonia as a developer.

Miss Effie Annesley received the third prize, a Bronze Medal. She has for some months been a persistent contributor to the AMATEUR PHOTOGRAPHER Monthly Competitions. Her photographs have all considerable merit in selection, and are taken with a Dallmeyer's lens working at $f/8$ or $f/6$, on Ilford or Lumiere plates, developed with Beach's developer.

The fourth prize, a certificate, went to Miss Frances A. de R. Hardman, whose photographs are of varying interest, mostly taken during foreign travel, and embrace landscape and figure studies, the latter being, in our opinion, the best. Miss Hardman uses an Optimus lens with either Eastman films or Ilford plates, and develops with Thomas's hydroquinone.

In connection with the 1892 Ladies' Photographic Competition, we shall hope to be able to say a few words of criticism upon all competitors' work, and regret that we have not been able to do so now. Much of the work is good, but we notice considerable unevenness, very few competitors' pictures being of equal merit, showing want of care in selection and technique. Still, it is encouraging to find ladies so interested in photography, and we feel certain that

another year will see a great increase in their number, and considerable advance in the all-round quality of their work.

ENLARGING BY EXTENSION OF FILMS.

THE possibility of enlarging negatives or positives by the extension of the film was noted first, we believe, by Dr. Eder, in the fourth edition of his incomparable "Handbuch der Photographie," pp. 345 and 346, where he also gives an illustration of an enlargement thus produced. Any one who has tried to strip a film without any previous preparation knows, however, the difficulties which are met with, in the shape of distortion and cockling of the film, and the inventors of the special solution reviewed in our issue of

LADIES' PHOTOGRAPHIC COMPETITION.



A SHROPSHIRE LANE.

BY MRS. JANIE N. HIGNETT.

last week are to be congratulated upon having elaborated a workable process for utilising such a simple method of producing moderate enlargements. Further experiments have proved to us that this process is one which lends itself very readily to the production of ornaments for the house and general decorative purposes.

It may possibly be of assistance if we briefly indicate the leading points to be observed. First of all it is advisable to use papier-maché or ebonite dishes for the stripping solution, and not to dabble in with the fingers more than necessary. Obviously, varnished negatives cannot be used, and wet negatives should not be used, as this would entail weakening of the solution. For negatives or transparencies developed with pyrogallol, it is necessary to first soak the film in a solution of acetate of soda, 1 drachm to the ounce of water, for ten minutes; with negatives which have been very much forced with ammonia and pyro, we have found that the time of soaking in this preliminary solution may well extend to fifteen or even thirty minutes with advantage; in this case insufficient soaking of the plate results in a curling and cockling of the film when stripping. Films developed with ferrous oxalate, hydroquinone, and

eikonogen strip most perfectly without any preliminary treatment.

On placing a plate in the stripping solution and allowing it to soak for about five minutes it will be seen to be loosening itself from the glass, and will soon float free. The actual time required for this to occur we have found to differ slightly with the various plates we have tried. When quite free, the film should be allowed to remain in the solution for one minute longer and then lifted by its former support and slid off into a dish of clean water, which should contain the final support on which the enlargement is required. There is one point to which attention should be drawn, and that is that the dish in which the film is floated on to its final support should be at least a size larger than the glass, so as to allow of getting the fingers well under its edges. In this bath the film is allowed to soak till it lies out quite flat without any signs of distortion, and should be then lifted right out, by aid of the glass, and the whole placed on a level support to dry.

We have tried transferring the enlarged film on to a wood panel, a terra-cotta plaque, vases, gas globes, and leather, and in each case with successful results. There is, therefore, a large field open in this process, for the decoration of household ornaments, and for decorative panels. With curved surfaces there is somewhat greater care needed to prevent distortion, and it is difficult to avoid puckering of the edges of the enlarged film; but as these may be conveniently removed so as to give a sort of medallion effect, this difficulty can be obviated.

To the amateur who, not possessing an enlarging apparatus, wishes to make an enlargement from some valuable or pet negative, this process offers a simple and by no means costly procedure. Thus from a negative we can make a transparency by contact printing, and enlarge this, let us say, from half-plate to whole-plate; from this enlarged transparency it is possible to make a negative by contact printing; enlarge this negative, again make a transparency from this enlarged negative, and finally enlarge the transparency, and transfer to some suitable support. We have successfully made a 12 by 10 opal picture from a quarter-plate hand-camera shot in this way, and there is not the slightest sign of loss of detail, density, or increase of grain.

As suggested by the inventors, this process lends itself to the improvement of hand-camera shots which may be wanting in definition or interest towards the edges, by a slight enlargement of the film and utilisation of the enlarged central portion only.

We have not yet had time to try the experiment of transferring the enlarged film to metal, or it might prove of value for the preparation of clichés for photo-mechanical work or pictures upon metal plaques. Obviously the process lends itself very easily to the production of reversed negatives for carbon printing, and if a skin, as used by the Eastman Company for their old stripping film, were employed, it could also be used to produce flexible film negatives. Another direction in which it might prove useful would be in stripping a gelatino-chloride print from its paper support, though we have not yet tried this, and possibly the image would suffer.



The "Spot" Mask.—The Fry Manufacturing Co., of 5, Chandos Street, Charing Cross, W., have earned the grateful thanks of all lantern slide makers by introducing the "Spot" mask. The worry and trouble of affixing the white spots to lantern slides is just one of those trifles which make a pleasure a toil, as they seem to delight in sticking everywhere but where they are wanted. With the new "Spot" mask, however, the spots and a blank space for the title of the slide are part and parcel of the mask itself, which the makers supply at a price of 3d. per dozen.

Letters to the Editor.

PHOTOGRAPHIC SOCIETY OF GREAT BRITAIN.

SIR,—I cannot go on replying to the calumnies of Messrs. Debenham and Co. for ever; they have been sufficiently confuted again and again, and it is becoming not only wearisome, but ridiculous. As it is Christmas time, let me give you an anecdote, old enough to be new, instead. To make it distantly applicable, we must presuppose the untruth that I gave my pictures undue prominence, but as I have sent only eight pictures for competition to Pall Mall during the last seven years (an average of one and a fraction to each exhibition), I cannot see how they could have crowded out, or caused injustice to be done to, anybody else's works wherever they were hung.

Once upon a time there was an Israelite who, unlike Messrs. Debenham and Mackie, was a distinguished photographer. It is recorded that on one of his photographic tours he found himself at a roadside inn in the country, and exceedingly hungry. He called for dinner, and found there was nothing but bacon in the house. He deliberated for some time between the calls of his conscience and his appetite, but the latter eventually prevailed. The bacon was placed before him, but, as he was in the act of raising the first morsel to his mouth, a tremendous clap of thunder burst overhead, upon which he dropped the fork, exclaiming, "O! Abraham, Isaac, and Jacob! what a noise about a bit of bacon!"

As Jack Bunsby says, "the bearings lie in the application."

Would you like another obscure one? This is a fable.

"A rat, finding a file, smelt it all over, but it gently, and observed that as it did not seem to be rich enough to produce dyspepsia, he would venture to make a meal of it. So he gnawed it without the slightest injury to his teeth. With his morals the case was somewhat different. For the file was a file of papers, and his system became so saturated with the "spirit of the Press" that he went off, and called his father a "lingering contemporary," advised the correction of brief tales by amputation, lauded the skill of a quack rodentist for money, and upon what would otherwise have been his death-bed essayed a lie of such phenomenal magnitude that it stuck in his throat, and prevented him breathing his last."

The lesson of this fable is that one cannot stick to pure reason while quarrelling with wasps; also that four straight lines may enclose a circle, but there will be corners to let. It is proposed that a small committee be formed to find suitable tenants.—
Yours truly, H. P. ROBINSON.

SIR,—I take it for granted and as a matter of course that Mr. Debenham took the trouble to read my letter of resignation before he undertook to give your readers the benefit (?) of his views thereon, so that I can only attribute his gross mis-statement that I complained of the awards, or even referred to a medal, to the effect of a malady which seems to be on the increase in certain quarters; it is called by an American humorist "pure cussedness."—I am, yours truly, HENRY VAN DER WEYDE.

182, Regent Street, W., Dec. 21st, 1891.

SIR,—Mr. W. E. Debenham professes to give a view of the latest disturbance in the Photographic Society of Great Britain in correction of previous statements. I have been very unwilling to enter any controversy on this subject, or to add publicity to the long tale of bickerings, rival interests, dissensions, and hopeless confusion in the Society; but as your wide circle of readers has been specially appealed to, I see no option but to correct Mr. Debenham's misleading statements.

In the first place, it was *no* duty of the Assistant Secretary to request Mr. Robinson to leave the gallery, much less to *order* him to do so, or to behave so ridiculously as to send for a policeman to turn anyone out. Mr. Robinson, as Vice-President, had a right to be there under a definite standing order of the Society. This standing order was printed as a "bye-law" by the Executive, and if any further proof of its being in force is needed, it is found in the fact that the Council have now, in view of these troubles, thought fit to rescind these standing orders. But whether such bye-laws were in force or not, it remains that the Assistant Secretary carried out his functions in a manner that justly gave great offence, not only to Mr. Robinson, but also to several other members and exhibitors.

The suggestion that Mr. Robinson used his influence to snatch the best position for his own pictures, is one worthy of the source from which it appears to spring. Mr. Robinson absolutely denies this. As a matter of fact, Mr. Robinson's pictures this year were hung rather unfairly to him, and certainly *not* in the best position. Neither did Mr. Robinson obtain the best position last year, when he was acting upon the Hanging Committee himself. I am glad that I can personally testify to Mr. Robinson's impartiality in regard to the hanging during the previous three years.

In regard to my own case, I have only to say that my pictures were invited by one or more members of the Exhibition Committee, and were *accepted* thirty-six hours late, on a *distinct understanding* that they should be hung without restriction or not put up at all. They were hung by one of the Committee, the Assistant Secretary being also present, and there they remained upon the walls for *more than six days*, until the hanging was completed and the judging was nearly ended. They were removed after this lapse of time (during which I was not communicated with) *not by the Exhibition Committee*, but by an official who had absolutely no jurisdiction in the hanging or management whatever, but who acted at the instigation of the Assistant Secretary.

As to Mr. Van der Weyde's resignation, the authority for the statement in the daily paper was in all probability official, as was the case in regard to certain other ill-judged inspired announcements.—I am, etc.,
G. DAVISON.

December 19th, 1891.

SIR,—Mr. Debenham is right in supposing that my last article in the AMATEUR PHOTOGRAPHER was to some extent inspired by sympathy for Mr. H. P. Robinson—about to the same degree, I should think, as Mr. Debenham appears anxious to let no smallest opportunity slip of discrediting this same gentleman.

It is understood that lookers on see most of the game, and the members of the Photographic Society of Great Britain beyond the inner coterie can, I believe, readily mark the note of exultation which but too clearly rings out between the professed calm tones of impartial justice in the matter.

In my sympathy for Mr. Robinson, my memory is retentive enough to recall to mind the grand services he has rendered to Art in photography, and to the Photographic Society of Great Britain particularly, during the last thirty years. It is easy in these latter days, when pictorial results may be so easily and accidentally achieved, and when the accidental form is for the nonce especially fashionable, to forget the giant services of this genuine artist. But is it generous—is it just? Do we owe him no debt of gratitude that he should have so long borne the glimmering lamp of Art light at our head while we have stumbled through the slough of despond, wallowing in technical difficulties and shivering in our all too scant garb of æsthetic knowledge.

And what is the monstrous gnaw which the tender gullets of the majority of this conscientious body would have us understand they are straining at, even while they manage to digest camel-sized masses of other neglected duty? Let us look at it in its most gigantic form. Mr. Robinson has been all these years actively exhibiting, hanging, and judging, and a principal manager at the animal exhibitions of the Society. This year he was present, and it is stated he pointed out the position his pictures usually held on the walls, and hoped they would be placed there again. Well, at first sight this does seem a statement to which some objection might be made through the proper channel. But at the same time it seems to me a very likely thing to happen, in face of Mr. Robinson being a candid outspoken man, and remembering that he has so long been associated with these exhibitions, that he might reasonably feel that he had more than an ordinary outsider's interest in them.

This, in the unwritten spirit of the law, he undoubtedly has, and to hang such veterans as Robinson, Gale, or England in any secondary place so long as they favour us with pictures would be an act of discourteous ingratitude. Altogether the unusual rigour and determination manifested in carrying this incident to an unpleasant and unjustifiable end would bespeak a sudden slavishness to duty if it did not meantime betray itself as rather due to the promptings of private feelings.

Why did the majority of the Council shelve the proposal to express regret that Mr. Robinson should have been ordered out of the gallery, even when the Assistant Secretary himself had admitted having exceeded his duty? Was that a sense of justice or private spleen?

If it was honestly considered by the Council that Mr. Robinson had exceeded the letter of the law through their own continued laxity, it could and should surely have been privately and *decently* intimated to him, instead of allowing a clique to rudely work their ways, and unfeelingly give pain to one who has deserved vastly different consideration at our hands.

These are my feelings in the matter, and I think they would be well endorsed by the body of the members of the society, if a vote were taken.

The Council have done me the honour to ask me to reconsider my decision to resign from the society, but I regret that I cannot find sufficient reason to conscientiously do so, their published statements notwithstanding. I am afraid the whole action is largely the result of the regulation consignment of a Satanic crop of mischief, which isn't it Watts tells us about—delivered into particularly idle hands; hands unnecessarily idle too, while their honest and straightforward duty, in the shape of advancing photography, lies plainly before them.—Yours faithfully,

LYDDELL SAWYER.

Singleton House, Newcastle, Dec. 21, 1891.

* * * *

MULTIPLICATION OF SOCIETIES.

SIR,—Knowing that you have often expressed yourself against the formation of photographic societies in districts in which they already exist, may I point out to those gentlemen who propose forming another society in the City, that within almost a stone's throw of the College there has been existing for ten years, and is still flourishing, the London and Provincial Photographic Association?

Our roll of membership is a very long one, comprising nearly all the leading men in the photographic world many of whom are constant attendants at our weekly meetings.

Our numbers are increasing considerably now by the election of many amateurs, who find in a central and popular Society like ours, that instruction combined with good fellowship that is so often found wanting in newer societies.

Having such a large number of town and country members, we are enabled to keep the subscription very low (5s. per annum), and our present quarters being commodious, we shall be very pleased to welcome many more amateurs.

Our record of past work is one of which any association might be proud, and the reports of our meetings, published weekly in the photographic journals in this country, and largely noticed in the European and American journals, show that we are not deteriorating.

I would not have taken up so much of your valuable space but for the fact of the promoters of the new society desiring to attract others than their own students to join their Society, makes it necessary that the claims of an association that has been in the field so long as ours should be plainly put before the newer recruits to the photographic ranks.

Our place of meeting is at the Champion Hotel, 15, Aldersgate Street, two minutes' walk from the station, and within fifty yards of the General Post Office.—I am, etc.,

THE HON. SECRETARY,

London and Provincial Phot. Assoc.

95, Blenheim Crescent, London, W., Dec. 21st.

* * * *

A SOCIETY FOR NORWICH.

SIR,—I was pleased to see a letter in the AMATEUR PHOTOGRAPHER urging the establishment of a society for amateurs in Norwich.

Yarmouth and Lowestoft have their clubs, and why should not we? Some time since the Norfolk and Norwich Photographic Society was regularly inserted in the list published in the *Reporter*, but I never saw a meeting announced. I once wrote to the gentleman whose name figured as secretary, asking for particulars and rules, but I presume that either the Society was dead or the Secretary asleep, as I was not favoured with any reply. I trust that some gentleman will be found who can take the matter up.—Yours truly,
AMATEUR No. 2.

* * * *

URGENT FOR ORDERS.

SIR,—We shall be glad if you will give publicity in your valuable paper to the following, in order that your readers and the trade may be on their guard. The following order was received late last evening, and as we did not feel justified in handing the goods to "the bearer," we despatched them direct to the firm,

and in reply were informed that the goods had not been ordered by them.—Yours, etc.,

DOLLOND AND Co.

35, Ludgate Hill, E.C., Dec. 15th, 1891.

COPY OF ORDER.

From W. Whiteley, Westbourne Grove, Bayswater, W. Urgent Order Form, 14/12/91. Photo Materials Department.

"Messrs. Dollond, 1, Ludgate Hill, E.C., please supply per bearer—1 (one) $8\frac{1}{2}$ by $6\frac{1}{2}$ R.R. lens, 1 (one) $6\frac{1}{2}$ by $4\frac{1}{2}$ R.R. lens, both with Iris diaphragm, if possible; if not, send Waterhouse stops.—For W. Whiteley, (signature of buyer) J. B. HOWARD. Our correspondent writes:—'With the whole and half plate apparatus you are getting ready for myself and Miss —, please send lenses supplied by Messrs. Dollond, 1, Ludgate Hill, as I am already working one of their instruments.' Please give us your very best discount (monthly account), and send by bearer your latest catalogue."

SUBSEQUENT LETTER FROM MR. WHITELEY.

"The young man referred to in your letter is assuming the name of 'Howard'; his right name is 'Baldwin.' The only address I have of his is 59, Wandsworth Bridge Road, S.W. Howard is the name of a present employé; no doubt he is trying to pass as him. Baldwin was only in my employ for about a week in November. I believe there have been several cases against him, and one firm, Messrs. R. and J. Beck, 68, Cornhill, has a warrant out against him. If I can be of any assistance in securing him I shall only be too pleased."

Photographic Procedure.

By E. J. WALL,

Author of the "Dictionary of Photography."

SECTION III.

EXPOSURE TABLES, PHOTOMETERS, ACTINOMETERS, ETC. To the best of my ability, without unduly increasing the bulk of this section, I have considered the factors regulating exposure, and shall conclude by describing as far as I can the various instruments and tables used by photographers for the same purpose, and I shall in all honesty of purpose point out what seem to me to be the failings of each, leaving the good points to be treated of in the advertisements of the same.

Hurter and Driffield's Actinograph.—Captain Abney thus describes this instrument:—

The actinograph is an exceedingly compact little instrument, consisting of four portions or scales, which correspond with the intensity, the effective aperture of the lens, the exposure of the plate, and the speed of the plate. The photographic intensity is indicated on a revolving cylinder by means of curves, one for every hour of the day at different times of the year. It is this scale which is the most valuable part of the instrument, since it is not founded on calculation, but on the results of observation, carefully carried out during the year, of the photographic intensity of the light. The light measured was the total light from the sky, and did not take sunlight into account. This is correct, since all exposures should be based on the light which has to light up the shadows of a subject, and not on the illumination of the high lights by the sun. The effective apertures of lenses are shown on a scale butting against this revolving cylinder, and on the opposite side of it are shown exposures. A second sliding-scale butts against the "times of exposures," and on the butting side has five points marked "very dull," "mean," "bright," "very bright," and according as the weather is in one of these phases, so the exposure is read off. The difference in exposure between "very dull" and "very bright" is four times only, the inventors finding that this is the greatest variation in the light from the sky under these circumstances. We are here disposed to quarrel with them, as we have found that it varies occasionally as much as ten times, but under these exceptional circumstances it is probable that no one would take a photograph. On the opposite side of this movable scale is an index to set against a 4in. scale, on which is found the speed of the plate. To use the instrument this index is set against the known speed of the plate. The revolving cylinder bearing the scale of light intensity is turned so that the day of the year is brought against the aperture of lens scale. The aperture of lens is brought against the curve indicating the intensity of the light at a given hour, and the exposure required is opposite the index of the kind of weather existing. We have practically tried this under varying

circumstances, and find that it is very fairly exact. By exposing portions of a plate on the same object at different times of the day, and using the times of exposure indicated, we have got images of almost precisely the same intensity, and showing the same amount of detail. This instrument is very compact, the box holding it being only $2\frac{3}{4}$ by $4\frac{1}{2}$ by $1\frac{1}{2}$, and should be useful when judiciously used. In the lid of the box a table of factors is given, in which we have the relative exposures for objects under varying illuminations. Thus we find that a distant landscape only requires from one-half to one-fifth the exposure of the ordinary landscape, while a fairly lighted interior will require three hundred times longer. The fact that such a table is required shows that judgment must be brought into play; but it may fairly be said that the instrument has reduced it to the minimum possible.

It will be noted that the photographic intensity of the light is founded, not "on calculation, but on the results of observations, carefully carried out during the year, of the photographic intensity of the light." Because the photographic intensity of the light for any given year, or for any given hour of a day in any given year, was a certain amount, it is ridiculous to state that that intensity shall be taken as a standard for every following year, notwithstanding the operator has a supplementary scale, to use which he has to *optically* estimate the photographic intensity of the light at the time of his exposure.

Green and Fuidge's Actinometer.—This presents the appearance of a small box about the size of a watch, on the cover of which are painted seven tints, each successive tint increasing in depth of colour, the same being facsimiles of the colour from its lightest to its deepest shade produced by printing on sensitive albumenised paper. Fuller descriptions of this must be obtained from the makers. The instrument assumes that the colour obtained by printing on albumenised paper is always the same; that is to say, that all albumenised papers will print to the same tint, an assumption by no means borne out by my experience. Moreover it will be acknowledged by most of my readers that the ratio between the formation of a coloured reduction product on a complex mixture of silver salts, as is present on ordinary sensitised albumenised paper, and the formation of the invisible image on bromide or bromo iodide of silver is by no means constant, nor are the two sensitive to the same particular parts of the spectrum.

Reid's Actinometer somewhat resembles in appearance a pocket comb, and depends upon the same principle as Green and Fuidge's actinometer, and is open to the same objections.

Watt's Bijou Actinometer.—Based on exactly the same principle as the two previous ones.

Stanley's Actinometer.—This consists of a reel of paper, coated with a gelatino-bromide emulsion which has been treated with a 10 per cent. solution of nitrite of potassium, which causes a distinct colouration by the action of light.

Watkins' Exposure Meter.—This, as seen in the diagram, consists of a brass cylinder with movable pointers and scales (fig. 94). At one end is an actinometer of bromide

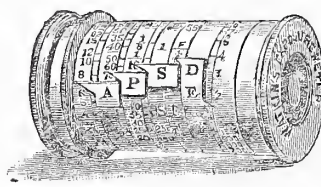


FIG. 94.

of silver paper, which is exposed to the light which falls upon the subject, whilst the other end of the cylinder is unfastened and set swinging, each swing beating half seconds. One of the pointers is set to the number of seconds, and the other pointers are set to the various factors of plate number, subject number, and diaphragm, when the last pointer, E, will indicate the exposure required.

Having quoted Mr. Watkins three or four times, it may

be assumed that I have no fault to find with this instrument, but the following are my objections to it, which I must admit may be purely theoretical. The basis of the calculations is the darkening of the bromide paper prepared with nitrite of potassium, as in Stanley's actinometer, and the same objection applies to this as well, but we have no proof that the ratio between the darkening of the prepared paper bears any constant value to the formation of an invisible image. Some correspondence has lately appeared in the *AMATEUR PHOTOGRAPHER* on this point, and in the face of that I append the following extract from Meldola's "Chemistry of Photography," p. 73:—

"The point is that we are liable to estimate the action of light upon a compound entirely by the amount of visible colour change which it undergoes. In consequence of this we may over-estimate the sensitiveness of some compounds, and under-estimate that of others, or we may fail altogether to recognise that a compound is acted upon by light simply because it shows no change of colour. But the circumstance that the product of photo decomposition is a highly-coloured substance is, after all, only a chemic-optical accident, and we must be careful therefore to bear in mind that the amount of colour change is no absolute measure of the amount of decomposition—that is, of the relative sensitiveness of the different compounds which may be compared with respect to the action of light upon them."

Again, on p. 81, Meldola says:—

"But the conclusion which may be drawn from this discussion of the comparative action of light upon the three haloids is that for photographic purposes the order of sensitiveness bears no relation to the order of darkening, and may be, in fact, quite the reverse of this order. . . . But although we are now able to look upon the degree of photo discoloration of a silver haloid as a character quite distinct from its sensitiveness in the photographic sense, it can be readily understood that the earliest efforts were directed to that compound which undergoes the greatest perceptible change on exposure to light."

It is reasonable, too, to ask whether the coloration of the paper is produced by the same rays of the spectrum to which the plate is most sensitive. I think not, the coloration being produced by the less refrangible rays, as in the analogous case of bromide of silver with excess of nitrate of silver. There is also one point which Mr. Watkins seems to recognise as a difficulty, for he says:

"In testing the light no notice should be taken of the exact colour of the sensitive paper, which may vary with the humidity of the air: the depth of tint is the important point. The paper darkens rapidly in light; up to a certain point it is lighter than the standard tint, after this point it is darker! The point when it is neither lighter nor darker is that to be timed."

It may be interesting to note here that as the result of a series of experiments on printing out with bromide of silver I have found that under equal conditions if we set the formation of a visible image at 1, the colour deepens till it reaches a certain tint in 100, but it requires 1,000 to gain any intensity, and even this is very poor. The paper soaked with nitrite of potassium is hygroscopic, and the tint alters with the humidity of the air, etc. I think it is possible, however, to use a salt which, so far from being hygroscopic, is actually efflorescent, which keeps the tint constant.

Although I have pointed out the faults with regard to the non-existence of a fixed ratio, Mr. Watkins only recommends trial exposures and printings till some such ratio is found for each plate.

The above form the leading actinometers of the present day. In days gone by, Ellerbeck, Monckhoven, Heeren, Pooisen, Vidal, Malval, and Ritchie utilised the same or similar principles.



"*Pitman's Shorthand Weekly*" is the latest publication of the enterprising firm of phonographic fame. It is well printed in phonetic shorthand, and contains numerous illustrations and short stories. The serial is a shorthand edition of "Dead Man's Rock," by Q. The publication is likely to further extend the popularity of the system.

The Study and Practice of Art in Field Photography.

By A. HORSLEY HINTON.

III.—ON THE CHARACTER OF THE PRINCIPAL OBJECT.

IN particular regions of country where given physical characteristics prevail, certain general arrangements of lines appear to predominate and go largely to determine the mental impression of the place.

Thus, amongst hills and mountains, lines cutting the field of vision obliquely prevail largely, and give a sense of quick variety and change. Such a landscape teems with interest, and the beginner, unaccustomed to select those combinations in nature best suited for the picture, will probably find the question of arrangement a very complex and embarrassing one, and for the present we believe the student will derive greater benefit from certain typical groups to be found in a flat country, to which we shall refer.

Marsh country has had a good deal of attention recently at the hands of photographers; yet not because of its late popularity, nor on account of any undue prejudice of personal taste, would we direct our readers' attention to this particular description of country, but because we have found in scenery of this class many fundamental principles very clearly shown, and the arrangements of the component parts of a flat landscape are, perhaps, simpler to understand. Moreover, it may be easier for a greater number of our readers to follow us, for whilst it is not every one's lot to live amidst wild rocky scenes, nor where the surface of the earth is sculptured into rugged cliffs or vast mountain piles, more or less within the reach of all is the river or brook, whose winding course leads on through far-extended level plains of verdant pasture, made fertile from abundant moisture; and tame and uninteresting though it be to the untaught eye, which craves for excitement and variety, still we shall find it full of great lessons and a picturesque beauty, if studied patiently and viewed aright.

To the man who makes cattle and sheep his chief object in photographic rambles, the water meadows will always have great attractions, but for the present we are intent upon viewing things *as a whole*. What a trouble this seems to many! How large a number of pictures are spoiled by the apparent inability to look at the scene in its entirety; and for this reason it would seem desirable that the photographer should rid himself of any particular affections. There is often so much in a general landscape to attract and please, so many points of interest—here a cottage, and there a bridge, yonder a shallow where water breaks into flashes of bright light, a stile or gateway and a simple farmstead; and what delight to find that all are within the field of the lens, and one plate will encompass the whole!

Here, however, is the first lesson we are going to ask our early student to learn, upon it so much depends.

It has been often shown how that the simplest subjects are the most forcible when forming a picture, hence the principle so generally laid down that in order to produce a pleasant impression it is necessary that the interest of every part of the picture be subordinate to a one principal object.

In order to understand the application of this principle, note that on looking at a good picture the attention is arrested by some object, or group of objects, towards the centre of the composition, and here the eye rests with satisfaction and pleasure, and though the glances wander over the rest of the picture, the one chief point or idea is still present, and to it the eye subsequently returns. If the importance of some one object be not paramount, the result

will be that the interest is disturbed, and the picture conveys a feeling of restlessness, and the mind fails to carry away so clear and forcible an impression. All this, doubtless, our reader has read or heard often before, but is he quite sure that he has so far grasped the importance of it or felt its meaning so powerfully that it shall be ever present in his mind when at work in the field? Yes? Then it may be that a still harder lesson in the same direction remains, namely, that, knowing what is right, to carry it out at the sacrifice of inclination, to deliberately throw away some pretty feature, to cut out an admired object because it interferes with the interest and importance of the chief point in the picture. It is a kind of self-control which must be always exercised. Of course, it is no greater exertion to include on one photographic plate a dozen points of interest than it is to take one, but if instead of the camera the pencil were the medium of pictorial representation, the expenditure of greatest care in drawing in some central object would perhaps leave little time or interest to devote to any second or third object. Moreover, seeing the sketch grow under one's fingers, the eye would be satisfied, and would not permit of the introduction of such unnecessary features. For this reason alone perhaps the rapid sketch will often be more satisfying than the elaborate and finished photograph.

But whilst we have thought the above remarks not unnecessary for some who have never given the matter thought before, yet doubtless there are very many who are unconsciously influenced by the right principle, and its evidence is in the difficulty, oftentimes, of deciding the precise aspect in which the subject pleases most; hence the shifting about of the camera now on this side of the path, now on that, first to include such and such objects, now to leave out some and introduce others, discontented with both. And why? Because the operator having formed an affection as it were for certain noteworthy features in the scene, he is desirous of getting them in the picture, but is unconsciously under the influence of certain principles which impel him to leave them out because they disturb the general harmony of the picture as seen within the limits of the ground-glass screen. It follows, therefore, that the photographer should, in the first place, be well decided as to the purpose of his photographing, whether he merely aims at securing correct representations of places and things without much regard as to their picturesqueness, or whether he desires to produce such effects as shall give that same sense of pleasure to the beholder which would arise from the beautiful in nature, apart from any especial interest for particular places or circumstances, which sense of pleasure, with truth, is the best function of pictures. Let him decide, then, that he will attach no more importance to ivied towers or silent moat, though they be associated with the history of kings, than he would to the hayrick or the gate in the hedge, unless—only unless—they assist in the general arrangement of the landscape. Speaking of ivied towers, how many a castle ruin or ancient church, being, deservedly or otherwise, notorious for its picturesque situation is resorted to by photographers intent upon "taking it" who yet rarely succeed in making a picture! But the resulting photograph is an object of admiration to many only because of its suggestion of old-world customs as a link with earlier chivalrous times, and awakens wonder, not æsthetic pleasure. Hence to some extent the danger of setting out with a predilection for any certain forms or objects. Perhaps we have lately seen some charming picture which has left so deep an impression on our minds that we long to do something like it—such picture contained perchance some delightful little bit of reflection under a flowery mound, broken in places where cattle had come down to drink; it

was not a great thing, but very sweet and pleasant, and we took away a dear recollection of it; and because shelving banks and quiet pools are not uncommon sights in a country ramble, we started out to look for something similar—an almost hopeless task, good reader, if, indeed, you should ever have attempted it. It was not that water and bank of itself that really pleased us in the picture; it was only because it formed part of the whole composition, and so even if we were to succeed in discovering a similar spot in our next excursion we shall be in danger of making a mere topographical photograph of that particular pool, and, intent upon it, may forget the rest of the picture. It is most often desirable to sally forth with a mind free from prejudice and without predilection of any kind, ready to accept things as they offer.

Topographical photography—with which the photographer of artistic aims has no part—should be understood to have a wider sense than the mere photographing of famous places and buildings. The taking of objects, be they ever so lovely, *for their own sake only*, apart from the general scene, is as meretricious a performance as "Margate Jetty, from the Beach," or "Lover's Seat, from—heaven knows where."

But all this is somewhat of a digression; only we would urge that interest, as well as objective importance, must be subservient to the paramount importance of the one chief idea or object.

Now, it must by no means be supposed that, in seeking to make the whole picture and each part of it subordinate to a primary object, this same primary object must necessarily be a very large or noteworthy thing; indeed, a very trifling matter will often be sufficient to overpower all else surrounding it, or, further, the very absence of a definite object, but a point where the prevailing lines in the picture make a sudden contrast will be enough to arrest the attention and give something for the eye to rest upon and the mind to dwell upon; and some landscapes there are so quiet in effect, so broad in suggestion, that as the eye is led on into the grey distance, it rests not but in the bright cloud that lies near the horizon—no uncommon case this, and one that speaks of the use of the study of clouds in the picture.

Again, a yet further thought: the predominating factor of the picture may be only a sentiment, an idea, to the realisation of which all else must subserve and lead; and whether a strong and characteristic object, marked and well defined, or a lesser thing—a brief measure of bright light, the sharp divergence of conspicuous lines, or some little point of contrast—forms the centre of attraction, it may be there by the deliberate intention of the artist, or it may arise almost unconsciously in consequence of that which surrounds and leads to it. Give but the proper opportunity, and the eye, which is naturally artistic, will make for itself a centre of interest; only the opportunity must be there, and the composition must not be such as shall oppose the natural inclination.

But we have asked our readers to come down with us into the water meadows and marshes, in the hope that we might be able to point out some simple examples of how the landscape lends itself to compliance with certain rules, and then to show how circumstances help or mar our efforts and make or prevent success.

We are fully conscious of the difficulties, because nature shows us the same scene never twice alike, and each scene and each aspect requires separate and individual treatment, wherefore we can only hope that in giving some experiences of our own they may serve as suggestions, but we are not writing an artistic guide to this or that neighbourhood.

(To be continued.)

The First Medal.

BY PETER PINHOLE.

I HAD but just returned from the Press view of the Photographic Society of Great Britain's Exhibition when I received the following telegram:—"In pity's name come at once, and bail me out.—Your old schoolfellow, John Smith. Bow Street Police Station." Without a moment's delay I did as requested, and procured my friend's release.

In the days "when we were boys together" he had been my diligent fag, and although we had not met of late years, I still felt a great regard for him, on account of the many hidings he had in bygone times received at my hands. As his place of residence was some score or so of miles out of London, I took him to my shanty, and having duly fed him, asked him for some account of his scrape. I knew he had been laying siege to a Miss Stern, and wondered whether she had anything to do with his troubles. Smith was, however, in such a demoralised and trampled down state that it was not until he had lit his second havannah that he gave the following explanation:—

"Last spring some demon whispered into my ear, 'Why not go in for photography?' Why not? thought I. Friends kept asking me if I had tried it. There was also a local exhibition, at which several of my neighbours, who I happen to know are little better than idiots, showed pictures, and in consequence went swaggering round in provokingly aggravating fashion. Well, the long and short of it was that one fine morning I said to my wife—that *was* to be—"

(Here friend Smith broke down, until I restored him somewhat with what I call Beach's formula, viz., pyro-soda; that is, old Scotch pyro.)

He continued: "'Angelica, I'm going in for taking photographs.'

"John, you're a fool."

"Angelica, I may be a mule, but object to the word 'fool' as an accurate description of my condition. In this one matter I am obstinate—I mean firm. You think yourself the only one of us who has artistic aspirations, but you are wrong, Angelica mine, and I mean to prove it.

My *fiancée*, I must tell you, had graduated in plaster casts at the local academy, and had received sundry prizes from a neighbouring artistic society, whose object seemed to me to be to encourage the practice of art in those who had neither the taste nor the capacity for it.

"It's my firm opinion, John," she answered (and she *can* be firm sometimes), "that all you will prove is a failure. In the first place, don't you know there is no art at all wanted to take photographs, or that odious Miss Robinson would never have got a prize at the Chalkhurst competition? And if there be any art necessary, your failure is a certainty. You know, dear John, you are the only one who never could fully appreciate my prize 'poker work,' so how can you hope to shine *even as a photographer*?"

There may be *good* 'poker work,' which I should perhaps be entranced with, but somehow Angelica's specimens always made me wish to borrow the poker and work a little on the design in solitude.

Now, up to the moment of holding the foregoing conversation I had not, past all retrieving, decided on taking the first photographic step; but never until this moment had I thwarted Angelica's smallest whim, and in view of our approaching nuptials, I determined to make a stand, and once and for all assert my supremacy; in fine, this photographic proposition was to be my Phillipi.

Alas! better that I had lost the battle, even if my future spouse had in consequence for all time worn the—ahem!—male nether garment. The immediate effect was a terrific—our first—flare up, followed by a tender reconciliation, at which Angelica formulated the following ultimatum:—

"I feel, dear John, you will be the laughing-stock of the neighbourhood." (She always throws in "dear John" when there is something sour to follow.) "But," she continued, "you no doubt are wiser than I, a weak woman, am; although up to this moment you have had no sympathy with the divine teaching of æstheticism, I dare say you know quite well that you are a born artist, therefore I will no longer obstruct your desire. But understand this, John, I will not ratify our engagement until you silence the sneers of our friends by winning a medal."

This unexpected condition fairly frightened me, and I should

have liked to give up the project but I felt I had gone too far to retreat. After all that I had said it would never do for me to knuckle under; besides, in the interval between our quarrel and the subsequent peace-making I had bought a whole-plate "rig-out," joined the local camera club, sent a year's subscription to each of the chief technical journals, and fitted up a dark-room.

From this moment forth I lost not a second of time; in fact, within a fortnight I sent in a set of four whole-plates to an exhibition. They did not get a prize; I hardly hoped they would, but they did get several Press notices. That particular week I took great care that Angelica should *not* see the photographic periodicals.

I think that being badly beaten and well "slated" is good for some folk; I am sure it was for me, for far from feeling discouraged, I determined to go on trying, being bent on winning.

Well, Pinhole, you know better than I do, all the ups and downs of photographic procedure. I had many sad and sickening disappointments in the results which I over and over again aimed at; but most things come to him who will not only wait but work; and every competition regularly saw one or more samples of my work, so in a few months time it came to pass that I actually got a "highly commended;" this was early in June, and I then began to feel that I had a medal within measurable distance.

What did I do? First purchased a complete kit for plates up to 24 by 20, and had it securely packed with all the usual negative accessories in a case; this I left at my house whilst I started away in search of the picturesque. Where did I go? Was it "By Reedy Ways"? It was not; neither was it amongst alpine mountains nor by foggy rivers, but it was—well, I will tell you some other time.

Anyhow I found a grand subject, or rather series of subjects, and taking suitable rooms hard by, sent for my huge impedimenta. For a whole month did I work at not more than six views, taken from slightly differing standpoints with varying times of exposure and effects of lighting.

Having made myself familiar with every notable photograph recently shown, I knew that the above were not like anything else which had been done, but were to a large extent fresh and original.

At length I returned home with my treasures and began the printing. For this purpose I was fortunate enough to get hold of some paper with a peculiarly rugged surface, it was several times coarser than Whatman's extra rough; as it was, nevertheless, according to my notion, too neat and regular in grain, I gave it a brisk rub over with sand paper; having duly sensitised it by means of a process which, while producing a splendid "art-tone," is sufficiently permanent to remain unchanged for a week or two, I brought the printing frames into play. I was, of course, careful to print in an effective sky; the best result being attained with the clouds upside down, as I had already remarked at the exhibitions.

Having got my sky to what is considered the proper depth by those "in the know," I was dismayed to find that there were no high lights left in the resulting print; but I soon got over this by working on the negative, by means of which I put a lot of high-light into the foreground, which made up nicely for what ought to have been in parts of the sky.

Having finished off a set of six of the best, I stuck them up in a row, and asked Angelica to come that she might enthuse over them; and so that she should enjoy a pleasant surprise, I did not tell her what she was to expect, but had her shown right into the room where they were displayed, giving her ample time to inspect them. I then came down with a smile of triumphant expectancy on my face to receive her congratulations. As I entered the room she approached me with a look of pity, and said in sorrowful accents:

"My poor, dear John, I *am* so sorry for this accident to your works."

"Wh—wh—why, what's happened to to them?" I gasped.

"I don't know, of course," she answered; "but *hasn't* something gone wrong with the fogging, or the fixing, or the—the—what is the matter with them?"

"Angelica," said I, "I see you don't understand photography—no, not a little bit; these are views taken at Doleful-super-Mist. This particular one here is, as you see, a sandy common with clothes props, and is called 'Sunny Hours.'"

"But it looks like a view taken about midnight," said she "and what *are* those pieces of chalk in the foreground?"

"Angelica, I am afraid your art education is a fraud; don't you know they are 'high-lights'?" The larger one is a pool, the others are—ahem—*just high lights*."

"Well, dear John," she retorted, somewhat nettled, I fancy, "all I can say is, if I were you, I should notify the aforesaid on the mounts; as for your gibe about my art-knowledge I shall say nothing, but I will say, that as jokes, these views are very good, for I have never seen any half so funny before."

"Angelica," I replied, "if you have ever been to a first-class photographic exhibition you would have seen lots like this, only not quite so good."

For some days after this episode we did not see much of each other, as you may guess, and in the meanwhile I entered my six leviathans for the "Hopshire County Photographic Exhibition."

As I never could unravel puzzles, it must have been luck or fate which impelled me to mount my pictures on the newly brought out "Patent Brown Paper Mount." I suppose the other competitors were about as careless as I, but not so lucky, for Regulation 49 stated that in Class B.Q. (a) 457, "No white mounts will be eligible." As everyone else had used white mounts but myself, it followed that mine were the only exhibits in this, "the open landscape class," and thus it was I gained the medal.

By the time I got the news Angelica and I had made up our last little tiff, and were once more friends again, so I gleefully rushed into her presence waving the telegram which announced my victory, and which assured me of her consent to our union; for after all, Pinhole, she's good and kind hearted. But, alas! I forget, all is at an end!

Here Smith once more broke down, but with the aid of "pyro" and patience I induced him to go on:—

"Well, nothing now standing in the way of our definite engagement, I promised Angelica that I would as soon as possible, with her parents' permission, which I knew would be given, take her to London and let her choose an engagement-ring; but I explained that, being for the moment short of funds, I should have to wait until the end of the month, when my dividends became due.

The next morning, that is to say *yesterday* morning, I received a letter running as follows:—

"DEAR SIR,—In conformity with our advertised intention, we beg to enclose a cheque payable to your order, for twenty guineas, you being the first to receive a medal for a print shown on our 'Patent Brown Paper Mounts.'—Yours, etc.,

ENTER, PRISE, AND CO."

I was rejoicing over my unexpected good fortune, for I had not the remotest notion of any such premium being offered, when Mr Stern, that is Angelica's father, looked in to ask me whether I would mind escorting her to town in the morning, as she had a visit her dentist, and he, who had meant to take her, had received news which would prevent him doing so.

I jumped at the suggestion, and thus it came to pass that early this morning, in high spirits, we, she and I, started off for a holiday in London. It was to be the first whole day we had spent together, a day of delights, one to look back upon with—"

Here he stopped, showing symptoms of a relapse, but I pushed the cigar box across to him, and, lighting up a fresh weed, he proceeded:—

"I said nothing to Angelica about my windfall, wishing to give her an unlooked-for pleasure, so, being done with the dentist, we turned into Bond Street, where we inspected sundry windows ablaze with glittering baubles; eventually we entered one of the emporiums, and she was not a little surprised at my purchasing for her a handsome half-hoop diamond ring priced at fifteen pounds. Handing the salesman in payment the cheque I had received from Messrs. Enter, Prise, and Co., while he was gone for the change I placed the ring on Angelica's ivory finger.

"John," she whispered; "it shall never come off again."

Just then the assistant returned and asked me to step into the office, and doing so I saw the principal, who said that it was

quite against their rules to accept cheques from strangers. At this I broke out into a cold perspiration. Should I ask Angelica for the ring back? No! anything but that. What I said to the jeweller I cannot remember; anyhow, after considerable talk, I persuaded him to accept the draft and give me the odd change.

LADIES' PHOTOGRAPHIC COMPETITION.



LILAC AND LILIES.

BY MRS. S. FRANCIS CLARKE.

"John, what is the matter?" were Angelina's first words when we got outside.

"Nothing, my dear." I drew a long, long breath, then called a hansom, in which we drove off to the Italian Exhibition at Earl's Court. Few things are more exhilarating to a provincial than to rattle over the London roads in a patent safety, and when Coridon has his Phyllis beside him the exhilaration becomes almost intoxication; so, quickly recovering from my scare, and then the cheque, I joked, laughed, and indulged in conversational sparkle. Angelica resumed her promises of eternal love, and sealed the vow by kissing the ring. At the exhibition we wandered in aimless fashion, more interested in each other than in aught else. Presently I remarked with some annoyance a gentleman who from time to time kept on looking at Angelica. This went on for so long that at length I said to her:

"Do you know that man; have you seen him before?"

She blushed, looked at him, and hesitated; in that moment green-eyed jealousy entered my breast.

"Yes, John, I do seem to know the face, but where I have seen it I cannot recall."

The answer did not soothe my wrath, so I hurried her away, determined to lose the hateful might-be admirer in the crowd. Having, as I thought, done so, we sat down in a quiet corner of the grounds, where I said to Angelica,

"My dear, you must have thought my manner slightly strange just now, but that man—"

"John," she interposed, "before you say another word, answer me, have you committed a crime?"

"Angelica!"

"I feel sure you are keeping a secret from me, and if you can't tell it to me, why, it must be something awfully wicked!"

Here she threatened to weep.

"Angelica, on my honour you are mistaken."

LADIES' PHOTOGRAPHIC COMPETITION.



GRANNY'S FIRST LESSON.

BY MRS. S. FRANCIS CLARKE.

"Then pray how did you get the money for my ring?"

On hearing this I coloured, but why, I cannot imagine. She continued,

"John, if I have wronged you I ask your forgiveness; but, once for all, the man I love must bear a name which envy itself could not spot with suspicion! Are you sure, John, that no one can come forward and bear witness against you?"

"Not a soul, Angelica — I swear it!"

At this moment the man I had fled from appeared, and said,

"I give these persons in charge for swindling."

Thereupon two other men stepped forward and stood by us.

Angelica fainted. I exclaimed, "We are innocent!" The detectives winked; a large crowd gathered round, and Angelica, having been deluged with water and thus restored to a full sense of her degradation, escorted by a body of police and a throng of people, we were marched out, and driven off to Bow Street Police Court. Fortunately, the magistrate

was then sitting. Angelica and I were placed in the dock; when the jeweller swore that I stated I had received the cheque in the ordinary course of business for value given, and that on his presenting it for payment, which he did at once, he found it had been stopped; having been sent to me purely in error, which error, the jeweller said, I had hastened to take advantage of.

Asked for my defence I could only stammer, "It is all a mistake," whereupon the magistrate mumbled, "Remanded for seven days; bail in £100; the woman is discharged."

As soon as I comprehended the above, I turned to Angelica, who stood beside me, to bid her a hurried farewell; but with scornful look and not *one* word she hurried out of the dock, and I was conducted to my cell. The rest you know."

Hardly had he finished before I heard a cab drive up outside, then a loud rat-tat, followed by a stranger's voice asking for me. The servant brought in a card, on which I read "Mr. D. Stern."

"Show him in."

As he entered, dismay and confusion spread over Smith's face. The new-comer bowed to me, but spoke to Smith.

"A nice fool you have made of my daughter! What d'ye mean by it, you little jackanapes? I'll horsewhip ye, sir!"

Poor Smith could only gasp and move his silent jaws. Of course, I used my good offices, and ultimately pacified the angry father.

"Here, sir," said the latter flinging a letter at Smith, "perhaps this, which being marked *urgent*, and which came for you this afternoon, will throw light on the matter."

Smith opened it, and read out as follows:—

"DEAR SIR,—The cheque forwarded you yesterday was sent in error, the twenty guineas having been gained by a Mr. John Smith at the *Topshire* Exhibition, and *not* by you at the *Hopshire* one. Payment of cheque has been, therefore, stopped.—Yours, etc.,

ENTER, PRISE, AND CO."

The end is easily foretold. Smith not only was immediately discharged when the case came on, but received a profuse apology from the jeweller, who also, with a wise munificence, made Miss Stern a splendid peace-offering in the shape of a brilliant diamond necklace. That this had a perfectly soothing effect is proven by an invitation I have this day received to be present at the wedding of John and Angelica.

The Incandescent Gas Light.

LAST week the Directors of the Incandescent Gas Light Company, Limited, invited a number of gentlemen to their works, 14, Palmer Street, Westminster, to hear a lecture on the latest development of the light, and to see specimens of the effect of the new mantle. There was a fairly numerous gathering, and great interest was taken in the light as shown by the able manager, Mr. Moeller. Contrasting the light emitted by the new mantle with that given by the older form, the great advance made was plainly evident, though during a great part of the lecture that strange visitor, the sun, sent his rays right across the two lights. The Chairman, Admiral Sir E. Inglefield, having briefly referred to the great improvement in the light,

Mr. Julius Moeller gave his lecture, in the course of which he said that the question of incandescence in connection with the use of gas had been experimented on by several scientists since 1820, but that Dr. Auer's method proved the best. "Dr. Auer made zircon and lanthan his special studies, and he was the first who discovered that yttrium was not an element, but was split into brassidium and neodidium. He soon found out that the heat-resisting property of all these earths was enormous, and he worked out a combination by which several of these rare earths used in a hood of cotton, produced with a small bunsen flame a brilliant light, and it was in this form that the incandescent light was introduced into this country. When first supplying the English public with a mantle or hood, this mantle was saturated with a fluid made out of the above-mentioned rare earths in such a proportion that these mantles gave a brilliant white light for about 800 hours without any decrease of light, but there was one of the chemicals used at that time which could only be obtained in very small quantities, and cost as much as £1 1s. an ounce, and in supplying lamps in England for about three months Dr. Auer had run out completely of the stock of the material that is the most heat-resisting, and the Company had to fall back upon a combination of these rare earths, which would give a perfectly good light for 200 to 300 hours, but then the decrease in the light was so great that after that time the light decreased and turned into a reddish sort of colour which was only very little better than ordinary Argand burners. In the meantime researches after the material we use for this fluid have proved that there is plenty of it, and that the metals we require

are so plentiful that any amount can be obtained, and having procured a good supply of each of them, the Company about two years ago began to make the fluid according to the original receipt of Dr. Auer, and we must state that from that date the Incandescent Gas Light has made a steady but sure advance, and the fact that from September to December last year we sold nearly 20,000 lamps proves that the system has many friends now. These mantles which have been supplied for the last two years have a capacity of twenty-five to twenty-eight candle-power, and they would burn without much decrease in light for about 800 hours. To-day I have to draw your attention to an invention which has been made by Dr. Auer which will make our system one of the most economical and efficient amongst the various ways of illumination. Dr. Auer has succeeded in finding a rare earth whose fire-resisting power is so great that no known heat is able to melt it, and this material, in connection with our hood, produces an incandescence that is absolutely startling. To give you a fair idea of the lighting capacity of this new mantle, I will compare this new light with some of the best known other systems in the market. To begin with, I have an ordinary Bray's burner No. 6, and with a pressure of one inch this burner passes per hour 7.5 ft. of gas, and with our London gas this would give no more than fourteen-candle power of light. The next burner I have is a large Argand burner; this gives at one-inch pressure with 7.5 ft. of gas per hour twenty-six-candle power. A third burner is our Welsbach burner as sold up to the present moment. This burner passes 3 ft. of gas, and with this 3 ft. of gas gives about twenty-five-candle power of light and the durability of the mantle I would average at 800 hours. The next lamp is our new light which we are able to introduce to the public. This burner passes 3 ft. of gas like our old Welsbach burner and the candle power obtained on the photometer is equal to sixty candles with one-inch pressure. If the pressure is always six-tenths to nine-tenths, we do not get the same amount of light, but still we are able to get with the six-tenths pressure of gas about thirty-five to forty candle power. The mantle that is on this burner will give this light for from 2,000 to 3,000 hours; after having burnt 2,000 hours (or nearly eight weeks, day and night) the light begins to diminish, and between 2,000 and 3,000 hours the light would vary from sixty to fifty candle power, but for practical purposes even forty candle power would be called a brilliant light, and fifty-candle power can certainly not be termed otherwise than splendid. If you take it only that our burners consume but half the amount of gas against other burners, you will find that the saving would be about fifty per cent. in the gas bill; against this must be reckoned the expense of the lamp and the mantles, and on an average each burner costs a householder about £1 a year, so that the saving with our light amounts to about 10s. per burner, less one or two mantles, which cost 2s. 6d. each, but I beg to point out to you that while there is an actual saving to a large amount in the gas bill for your money you get a better light, a purer light, and a steadier light. The burner is simply screwed on to an ordinary gas fitting, and after that the mantle is fixed on, after which the mantle is burnt off to free it from certain chemicals which render it more resisting against breakage in travelling, after which the chimney is put on, and the mantle will begin its duty as a light."

The lecturer pointed out that the water gas was much used for these lights in America, and was supplied at from 6d. to 1s. 6d. per 1,000 c. f. A heating and not a lighting gas was necessary for the incandescence, and the "Helios" gas making machine which they also manufactured would supply 1,000 feet of gas at a cost of 1s. 2d. A light with a special blower to give a better Bunsen flame was shown, attached to an optical lantern, and to the eye it was very nearly equal in brilliancy and whiteness to the lime-light. The arrangement being simple and the danger *nil*, the Incandescent light is likely to prove a formidable rival to the oxy-hydrogen jet.

Munster Camera Club.—The ordinary meeting was held on the 9th inst., the President, Major J. D. Lysaght, in the chair. Mr. Bennett gave a demonstration on "Enlarging by Artificial Light without a Condenser." Several enlargements were made from negatives varying from quarter-plate to whole-plate size, and the results were in all instances most successful. The lecturer pointed out the advantages of this system over that in which a condenser was required, the important question of the cost of the latter, more particularly when of large size, being dwelt upon.

In a Provincial Studio.

By "LOITERER."

I REMEMBER a book which appeared almost simultaneously with a celebrated volume of travels. It had the misleading title of "Explorations in the Interior," and was, actually, a clever description by a surgeon of the anatomy of the human frame. The other day I had an opportunity of seeing the work of "An Artist of Interiors," one who has made a speciality of the photography of the various rooms of famous mansions.

Before me was placed first of all a splendid album containing photographs of the chief beauties of Halton, the seat of Mr. Alfred Rothschild. Every dark corner or difficult position in these rooms had yielded up its secrets to the searching lens. The satin on the chairs glowed with reality, the delicate shadings of the priceless pictures on the walls were reproduced with extraordinary fidelity. Dining room and drawing room gave the photographer, perhaps, the best chance of displaying his taste, but all the contents of the album proved that he was an artist.

Next, some fine views of Chequer's Court, the seat of Mrs. Frankland Russell-Astley, were shown to me. In them, one saw the same striking examples of skill in getting the best possible photograph. Then followed pictures of the splendid rooms at Aston Clinton, which belongs to Lady Rothschild and where Mr. and Mrs. Cyril Flower reside. The drawing-room at this house presents many difficulties, which have been overcome with much skill. The chaste ornamentation of the ceiling stands out in the photograph with admirable emphasis. A portrait of the veteran Sir Harry Verney, Bart., reminds us of the fact that the right hon. gentleman is more than ninety years of age. He still rides on horseback, and is as youthful in his hopes and as active in the performance of his duties as landlord, as if he were but fifty. The photographer has most happily caught the calm look on the face of Sir Harry Verney. The many objects of interest in his house, which was recently visited by Prince Damrong, of Siam, add to the beauty of photographs of the various rooms.

Waddesdon, the seat of Baron Ferdinand de Rothschild, M.P., is a splendid subject for the photographer. The front view shows us a noble design, and makes a most effective picture. Another photograph depicts H.R.H. the Prince of Wales playing lawn-tennis. His companion in the game was the Hon. H. Tyrwhitt-Wilson, who has recently died. The chandeliers in the drawing-room of Waddesdon are finely photographed, while the clear way in which the artist has depicted the canvases on the walls is a great tribute to his skill. In the library the bindings and titles of the books are wonderfully caught.

Leaving Rothschildland, we see equally good photographs of the interiors of Waverley, Berkeley Castle, and Pierpont. And it is not only with the glories of English homes that the artist has busied himself to such advantage. He has triumphed over atmospheric effects in remarkable style. Here we find a real picture of a fog. It is so natural that a Londoner feels bound to cough! Frost, with bright sunshine upon it, makes another extraordinary photograph. With kangaroos he has also done well, although the task was a long one. A group of hounds, with every one perfectly alert, this artist finally shows us. There are many other specimens of his genius, but we have only space to mention, perhaps, his greatest success.

This is a portrait of Mr. Gladstone, which has been pronounced by Mrs. Gladstone to be the finest ever taken. We must humbly endorse this opinion. Mr. Gladstone's face has been so often photographed that one hardly expects a novelty, but in this picture there is a positive revelation of the look which the ex-premier bears when absent from Parliament, and in the restful surroundings of home.

The studio which we visited is that of Mr. and Mrs. S. G. Payne, New Road, Aylesbury. Both are distinguished medalists, and both are undoubtedly artists.

Camera Club.—On Monday, December 17th, Mr. Leon Warnerke gave a description and demonstration of a simplified collographic process. Mr. A. Stroh occupied the chair. Mr. Warnerke described the method of sensitising and printing the gelatine skin from which the prints by the auto-copist process are obtained, and he practically demonstrated the various treatments in inking and printing, an ordinary letter-copying press being employed. The effect of one of the prints taken on Whatman paper was much admired. Next Thursday, Mr. T. M. Brownrigg will exhibit and describe a series of his lantern-slides, and afterwards other members' slides will be shown.

A New Method of Preparing a Resinised Paper.

IN a leader in our issue of July 10th we directed the attention of our readers to the much-neglected process of making matt-surface prints by the aid of resinised paper, and suggested the incorporation of an alcoholic solution of shellac, with a gelatino-chloride printing-out emulsion. We do not know whether this article has prompted Herr Valenta to experiment, but we assume so, and he points out, in an article in "Photographische Correspondenz," an improved method of making such an emulsion. He points out that the fault of using an alcoholic solution is that success is not always certain, that, as we discovered, the resin was very liable to agglomerate into lumps, and also, unless carefully mixed, coagulation of the gelatine ensues, and therefore he experimented by preparing a saponified solution of light yellow French resin, and mixing with a salted solution of gelatine.

The particular method of preparing the paper recommended by Herr Valenta is as follows: ten parts of chloride of ammonia are to be dissolved in one hundred parts of water; from three to four parts of gelatine should be swollen in water; to prepare the saponified solution of resin, some water is heated to boiling point in a porcelain dish, and some solution of ammonia added, and the light yellow French resin, finely powdered, added in small quantities with constant stirring. When all the resin is saponified and the solution quite clear, the swollen gelatine is added and dissolved, the solution of chloride of ammonium is now added, and the bulk of the solution made up to 1,000 parts with distilled water, carefully neutralised with dilute hydrochloric acid; and finally a concentrated solution of citric acid added, till a strong acid reaction is given. The resin is precipitated in a very fine state of division by the addition of the acid, and a milky liquid thus obtained, which is used to salt the paper with.

Rives paper gives the best results, and it is best salted by spreading the warm solution over the paper with a pad, and then allowing it to float on the warm solution for three minutes. The salted paper should be dried in a fairly hot room. Sensitising may be effected as usual by floating on a 50 or 60 grain silver solution for 2 to 3 minutes, and then drying in the dark.

The paper should be fumed for 10 minutes before use, as greater brilliancy and quicker printing is thus obtained. The prints when removed from the printing frame have a dark-blue violet shade, and if washed slightly and then fixed in an acid fixing bath a pleasing reddish-brown tone results. The prints are not sunken in, and possess much greater brilliancy and purer whites than ordinary salted paper prints.

Beautiful black prints may be obtained by the following procedure, and they closely resemble good platinotypes. The prints must be well washed to free from nitrate of silver, immersed in a bath of gold chloride 1 part, borax 80 parts, water 10,000 parts; till they assume a deep violet tone when examined by transmitted light. They should be then washed and placed in a platinum bath, composed of 1 part chloroplatinite of potash, 300 parts of water, and 15 to 20 drops of hydrochloric acid. They tone very quickly to a fine black, and should be then well washed and fixed. It is essential to print very deep for this platinum toning.

If the prints are fixed on removal from the gold bath, the image on drying is a good reddish black, and if an acid uranium nitrate bath be substituted for the gold and borax bath, a fine red tone is obtained.

Exhibitions.

INTERNATIONAL PHOTOGRAPHIC EXHIBITION AT LEEDS.

[CONCLUDING NOTICE.]

THE Eastern pictures by Hamilton Emmons show a considerable amount of artistic feeling, but they all appear to want *something*. Is it that the negatives are under-exposed so as to get the clouds well rendered, and the development stopped far short of the mark to still further secure the same effect? At any rate, the figures are phantom-like, for there is no solidity in any of the shadows. The picture "In Quest of Water," is the best of the series, for the palm trees and the figures stand out in strong relief against the setting sun, and there is in consequence less of the defect just spoken of.

J. E. Dumont manages always to get some expression into the faces of his sitters; but how comes it that the jolly model who does duty for a monk, and who appears in several fishing pictures clad in anything but a monkish costume—surely it is worth while to take more pains about its correctness—is entered as an out-door group? Is it that he is such an odd fish himself that he may pair with the one at the end of his rod?

The stormy weather of the past month or two has supplied Sutcliffe with some grand subjects. The one called "Purple and Gold" is one of the most magnificent skies ever produced by the camera. The clouds are piled up strata upon strata, and one almost sees their varied colour as they are lit up by the fiery setting sun. The "Flag of Distress" is a painful picture. A ship is stranded on a shallow shore, and nothing but a speedy change of weather can possibly save her, for should the next tide bring with it heavy breakers, she must go to match-wood. These pictures have well earned the silver medal awarded to them.

A. R. Dresser is successful in one or two of his marine subjects. The colour is peculiar, and though the prints are on rough paper, there is an effect of glazing which very much resembles varnish when looked at closely. The "Steamer *Nelson*" is the best of the series, and is a fine study of light and shade.

W. Clement Williams has produced some very fine cloud effects. The pictures are very large and striking—too striking, in fact, for they are in blue pigment. A. S. Watson's "Cloud Studies" are too dark, and are still further spoiled by the glitter of the gilt wainscot matts in the frames.

Karl Greger is successful in all his subjects. His figures are natural in pose, and the balance of tone is always satisfactory, but why always this red tone? Is it that the judges should not overlook them? They are far too good for that to happen, so pray let us have a change of tint next time. The little wood-gatherers by the rude stone wall, and the gipsy encampment, are very artistic little bits.

Lyd. Sawyer's "Towing up Stream" is one of the best of his smoke-enveloped Tyne pictures. The high-level bridge is faintly visible in the distance, for the whole scene is murky from the ever-prevailing smoke, and the only high lights in the picture come from the foam dashed off by the paddles of the tug. The small marine pictures are rather better than usual. There are some fine cloud effects by J. W. Wade, and the same may be said of those by W. D. Welford. Some fine effects of sunlight struggling through sea mist deserve special notice, and J. M. Nicholson deserves praise for his courage, for it is difficult to render such subjects effectively, but he has done it, and done it well to.

The enlargements are not very striking at Leeds. They are mostly bromide, and the prevailing fault is hardness; the colour also is not agreeable. "At the Fountain," by J. W. Wade, is by far the best. An old woman is drawing water, and has tucked her dress between her knees to save her petticoats from the overflow; she does not seem to mind her white stockings, however, for they are well in view. The street is a quaint one, and the picturesque houses make a capital background.

Keene's interiors are always good, but they are so well known that they do not need further description. The same may be said of those by Stewart, done by flash-light. They are perfectly illuminated, and the figures introduced into them are very natural in pose. The texture of a silk dress on one of the figures is wonderfully rendered. Miss C. W. Barnes has also produced some good interiors, but in the one that is technically the best

there is too much floor; artistic eyes would be satisfied with considerably less. Her work is so extremely good that it is quite worth while to point out this fault.

F. W. Edwards well deserves the silver medal awarded to him for his very large direct photographs. The interior of Westminster Abbey is by far the most important picture of that grand building ever done by photography. Court Cole's Oxford interiors are as good as ever, though they are larger than usual.

The evening studies on the Thames, by P. Ennis, exhibit artistic feeling, though perhaps they are wanting in variety of effect. They are very low in tone, and one is certainly taken after sunset. In one, an old barge looms up dark against a grey sky, which is relieved only in one spot where a peep of light struggles through the murky clouds. Carl Greger has tried his hand in a variety of classes, and appears to have carried off awards everywhere. "A Suffolk Mill" is a strikingly artistic picture. It looms up dark against an evening sky, and long streaks of light repeat the silver streak of the sedge-lined stream in the foreground. This is by far the best of the four entered in this class, though the others are very good also. His work is so delicate that they would well bear enlargement. The mill would make a striking subject on a larger scale.

"An Old Time Garden" is a very effective picture by T. Dawson. He is very fortunate in his materials, and he has used them well: a marble pavement with shrubs and flowers on each side, and an old Italian arch which frames in the scene, to which life is given by a stately lady gathering roses.

Sandsend, near Whitby, is evidently a happy hunting-ground for artists, and A. A. Pearson has been very successful in his selection. The best is the boulder-strewn shallow stream spanned by a many-arched bridge, backed up by hilly background. All the pictures by this gentleman are extremely delicate in treatment, but this one is the most artistic, both in selection and in light and shade.

Godfrey Bingley, who has worked so hard for the success of this exhibition, has been extremely fortunate, for besides the silver medal for the best picture done by a member of the Leeds Photographic Society, he has been awarded a bronze medal for the best series produced by one of its members. The best is "Beddgelert," and well deserves the honour, for it is a perfect picture. It is a well-known spot, and has been photographed often enough, but rarely so successfully.

H. P. Robinson is represented by four of his admirable landscapes, but they have all been described before. They are well hung and cannot fail to attract attention. Horsley Hinton, besides several already described, sends one or two pictures new to us, but we long to see work in a higher key. "Summer Breezes" is the best of the series.

Pattison Gibson's "Autumn on the Tyne" is the production of an artist. No one can better deal with river scenery, and this particular one is an admirable example of his work.

"The Haunt of the Moor Hen" is a landscape of large dimensions, and is besides one of the most artistic pictures in the exhibition. A silent, sluggish stream winds its way behind a clump of trees that boldly occupy the right of the picture. The shadows from the wild vegetation that lines its banks are delicate though well marked, and give force to the foreground, whilst the light on the water in the distance comes exactly in the right spot for the best effect. "At Work by the River," by the same artist, is also very effective. Men and horses are at work on the bank of a stream, and stand out in bold relief. The group is quite natural and unstudied, and the composition quite satisfies the eye.

The wall in the principal gallery devoted to the champion class is the most striking in the exhibition, for there is more variety, but of course the pictures have all been described before. H. P. Robinson only sends "Gossip on the Bench," and this is by no means the best of the many well-known pictures which have been distinguished by medals elsewhere. W. Crook's remarkable series of "The Scotch Judges" are here, as also Sutcliffe's "Water Rats" and "Stern Reality." There is not space to deal further with this class, however. On looking round this room one is struck by the monotony of effect produced on the opposite wall. This is due to the class distinctions which evidently hampered the hanging committee. At Glasgow they boldly broke up the monotony by re-hanging one wall at the eleventh hour, and by the introduction of some striking pictures which were not sent for competition, they completely changed

the aspect of the principal gallery. It is a pity the hangers did not courageously do the same at Leeds.

The portraits are not very numerous, and the best have been exhibited before and do not need further description. A gold medal has been given to Van der Weyde's artistic group of "Dorothy Dene and her Sisters," and a silver medal for a fine bromide enlargement of life-size proportions, evidently done from the same original negative. Mr. Barry has produced a charming group of two graceful girls in light dresses. The lights and shadows are simply perfect, but the whole is marred by a painted property door which does not help the picture in the slightest, but, on the contrary, it upsets the whole composition, for the lighting on the figures is completely at variance with the supposed light coming from the open door. G. Grenl sends several good portraits; among them there is a very natural one of "Peasant and Pipe," not a pastoral pipe, but one capable of burning the very strongest German tobacco. Harold Baker's portraits are always artistic in pose and fine in lighting. The drapery on the figures is arranged with a sculptor's touch. In the amateur portrait class, Mr. J. Jenkins has taken a medal for his "Heads of Pretty Children."

The lantern-slides are very numerous, and are divided into two classes—professional and amateur. The entries in the latter far outnumber the other, and the quality is so high that there was no need for distinction between the two. Indeed, all things considered, perhaps the excellence of the amateur work is highest. The Leeds Society distinguishes itself in this competition, for the fine colour and the transparency of the slides sent in by its members are qualities which cannot fail to strike the connoisseur.

Among the larger transparencies there are some negatives on L. D. England's celluloid films which fully demonstrate their efficiency. The trade exhibits have been arranged with considerable taste. Pearson and Denham, of Leeds, show an efficient copying camera for lantern slides. By a simple arrangement any part of a negative can quickly be brought into position for copying purposes. W. Middlemiss, of Bradford, has made some further improvements in the apparatus invented by Professor Barr, of Glasgow, and Professor Stroud, of the Yorkshire College.

In conclusion it may be said that this is the third large representative exhibition held within the year, in important commercial centres far removed from London. The works distinguished by commendation during several years past have been freely sent, and therefore each of these large exhibitions should do good, for they fairly represent the state of the photographic art of to-day. Leeds has with great ability followed the example set by Liverpool and Glasgow, and fully deserves the success which must follow its efforts. The municipal authorities of Leeds were more than liberal with their medals; but Messrs. Pringle, Gale, England, Cembrano, and Blanchard, who acted as judges, showed a wise discretion when they seriously limited the number, for only two out of four gold medals, and twenty out of thirty-seven silver medals were awarded.

THE SOCIETY OF AMATEUR PHOTOGRAPHERS OF NEW YORK.

THE following awards, consisting of handsome bronze medals, have been made at the exhibition of the Society of Amateur Photographers of New York, held at the American Institute Fair. The judges were Messrs. Wm. Kurtz, Frank La Marme, and Henry A. Ferguson, a professional and an amateur photographer and an artist:—

Landscape—Superiority, H. M. Gridale; Excellence, Alfred Stieglitz; Merit, Hugo S. Mack.

Marine—Superiority, Charles Wager Hull; Excellence, Ferdinand Ruppert.

Portraits—Superiority, Charles H. Davis.

Instantaneous—Merit, G. W. Wundrum.

Enlargements—Superiority, L. H. Laudy; Excellence, Louis T. Brush; Merit, J. S. Converse.

Genre—Superiority, Miss Emilie V. Clarkson.

Interiors—Excellence, Fred Vilmar.

The judges also recommended for honourable mention:—Frames 120 to 139, examples of different methods of sensitizing and toning, upon various papers, Edward Leaming; Frame No. 205, A. L. Simpson; Frames Nos. 94, 95, 96, cloud effects, Charles Wager Hull.

A Hetherington Magazine Camera was awarded to Charles Wager Hull, by popular vote.

Reviews.

The Principles of a Photographic Lens Simply Explained. By R. and J. Beck, 68, Cornhill, E.C. (Gratis.)

This little book gives just that information which the amateur photographer requires; it is not full of diagrams or heartbreaking equations which most of our workers have long since forgotten how to work out, if they ever knew. The authors describe "pinhole photography" by stating that "a pinhole has no focus, has unlimited depth of definition, has no distortion, and no rapidity." "The photographic lens" is explained in sections, viz.—Focus, depth of definition—Distortion—Angle of view and rapidity. Special descriptions of lenses of Messrs. Beck's manufacture, and their special uses, are then explained. The following are enumerated:—Portrait—Rapid rectilinear—Combination—Wide-angle rectilinear—Narrow-angle single view, and Wide-angle single view. In the selection of a lens the authors call attention to the following points: "The covering power of the lens," which depends upon (1) the quality of the lens, (2) the focus of the lens, (3) the aperture of the lens. The authors recommend the following lenses for all-round work, viz.—R.R. lens—Combination lens—and a Narrow-angle single view lens. A very well written short summary of the use of stops and the swing-back, with a list of lenses, sizes, equivalent foci, and price, completes one of the handiest little pamphlets on lenses that we have seen.

Spring at the Italian Lakes. By G. E. Thompson. (London and Liverpool: James Cornish and Sons.)

Mr. Thompson has long been known as a photographer possessing much ability, and as a lecturer who handles his subject with much skill. He now makes his bow as an author with a most interesting, instructive, and entertaining story of his travels in Italy with camera and pencil. To the tourist his book is full of interest, and contains notes that will be most valuable to all visiting the Italian Lakes. To the photographer information is given as to points of view, time of day, lighting, etc., not the least interesting chapter being the last, which is headed "Experientia Docet," and certainly Mr. Thompson speaks from experience, for he tells us that he has exposed, "profitably and otherwise, nearly three thousand plates" during his journeys in foreign lands. He carries twelve double backs, taking out six at a time; four lenses—Ross's 4 by 3 rapid symmetrical for instantaneous and general purposes, Dallmeyer's single for views pure and simple, Ross's 4-inch portable symmetrical for interiors and confined situations, and a 3-inch of the same make for very near subjects. Mr. Thompson works with Mawson and Castle plates; the Mawson for instantaneous work. He packs each dozen up in the box from which the last were taken, starting, of course, with an empty box. The "tips" given as to customs matters are valuable. The author strongly advises taking or having plates sent from England by post. He says: "They will come safely in about a week from England to Venice. Quarter-plates cost about sixpence per dozen postage, and about twopence for duty. The post-office provides tables stating what they are; the customs then pass without opening, and you pay the duty marked to the postman who delivers them." To all who contemplate making a visit to the Italian Lakes, we cordially recommend Mr. Thompson's book, which will prove their guide, philosopher, and friend, and those not so fortunate will find it delightful reading, being written in a light, bright style, which renders the perusal a great pleasure.

Croydon Camera Club.—On the 15th inst. an informal meeting was held, by invitation of Mr. Charles Hussey, at his residence, to inspect the photographic masterpieces which he has collected. To enumerate them would not serve any useful purpose, but we may say that they included fine examples of the works of Messrs. Gambier Bolton, Wellington ("Eventide"), Lafayette, Gale, West, and others. In this last category is Mr. H. P. Robinson, whose celebrated composition, entitled "Carolling," gave most unalloyed pleasure. There is no doubt that such works as this last not merely lend dignity to the practice of the art-science, but spur the amateur to aim higher than merely obtaining literal transcripts of prosaic scenery. On the 21st, lantern night, slides were shown by the following members:—Messrs. Goddard, Bray, and Hirst. The next meeting will be on 4th January, when Mr. Hussey will discourse on "Negatives for Lantern-slide Work, and some Neglected Processes for Enlarging from them." Messrs. Charles Bray and Stephen L. Griffiths have been elected members.

Quarterly Examinations in Photography.

Question 35.—What is the effect of pressure on a sensitive film before and after exposure, and is there any difference to be seen between the two on the developed plate?

ANSWER.—It is quite possible to produce a developable image on a sensitive film without exposure to light at all, simply by mechanical pressure. This curious fact was first noted by Carey Lea in 1866 with iodised collodion plates, and has since been confirmed by Eder for bromised collodion, and by Warnerke and Abney for gelatine plates. If marks be made upon a dry plate with, say, a glass rod, the plate on developing, without any exposure, will show plainly the marks, just as if produced by the action of light. The reason for this is unknown so far. But it is a known fact that chemical changes can be produced in mixtures or compounds by pressure, hence the effect of pressure after exposure would probably be to cause a chemical change in the silver salt forming the latent image. The difference after development would be that in the first case only the pressure marks would be seen, whilst in the second the image formed by the exposure would appear, and where the pressure had been applied fog would be the result. PEN.

ANSWER.—A moderate degree of pressure on a sensitive film before exposure causes the part of the film that has been pressed upon to develop with less density, while pressure after exposure is attended with no effect. The usual method of applying this test is to lay a sheet of paper over the film and to write on the super-imposed paper with a hard pencil or a glass rod.

I attribute the result to friction or a slight scratching of the film, and not to pressure alone, for, if care be taken to avoid any scratching motion, very considerable pressure may be applied both before and after exposure without any difference, in either case, appearing after development.

I placed a disc of soft lead on a piece of bromide paper and subjected this to a pressure of fifty-six pounds on a square inch of surface without any result. When subjected to a still greater pressure in a copying press the *margin* of the disc developed a shade lighter in colour, but the diameter of the disc impressed developed as black as the parts of the paper not subjected to pressure. Writing on the back of the paper before exposure produced as much effect as very great pressure. Pressure after exposure produced no result. My experiments with a gelatine plate ended in the same way, except the glass was cracked. MONDS.

Question 36.—What do you consider the most important scientific application of photography, and what the most useful commercially?

Apart from all the pleasure and instruction to be derived from photography as a means of picture making, etc., the two most important scientific applications, I consider, are in relation to astronomy and to medical science, and of these two I give the latter the preference, the wonderful discoveries able to be made in this branch of science by means of the camera in conjunction with the microscope seeming to be endless. Most of all is this the case with the subject of bacteriology.

The most useful commercial application of photography, is, without doubt, the part it plays in the numerous photo-mechanical processes, whereby our literature is illustrated in so many ways, whether the subject be an instructive map or diagram, or whether it be the reproduction of some beautiful picture, to be seen everywhere now-a-days. P.E.

Societies' Meetings.

Aberdeenshire.—The usual meeting was held on the 15th inst., the President in the chair. A discussion was started respecting the action of developers on different makers' plates, the opinion being that each plate required a somewhat different developer to secure the best results. Specimens of prints on the new Ilford printing-out paper, and of some novelties in mounts were passed round. The President exhibited the Facile hand-camera, and a portable electric lamp for developing and general use, both of which were much admired. The next meeting will be on January 26th, 1892.

Bolton.—An ordinary meeting was held on the 4th inst. Mr. W. Banks read his paper on "Lenses and their Application to Photography," illustrated with lantern slides. The lecturer was followed with considerable interest, and answered questions put to him by the members.

Bristol and West of England.—At the meeting on the 16th inst., the previous minutes having been read and confirmed, Mr. Moline

proposed that the association should contribute towards the Maddox Fund, and a list for that end should be started forthwith; this was seconded and carried unanimously. In the absence of Mr. Hemmons the survey question was deferred till the next meeting. Mr. Smith then gave a lecture and demonstration of the Kodak hand-cameras. He showed the latest folding type, with roll-holder removable for using a focussing screen, and in which the shutter has a working range of 5 sec. to 1-100th sec., as well as time exposures. A large number of slides were then passed through the lantern, and provoked much applause. Many of them were taken by Mr. Smith, and some very fine ones by mere beginners. The slides were wonderfully sharp. In reply to a question, Mr. Smith advocated developing a number of films, face downwards, to avoid puckering during development. He stated that the Eastman Co. had quite got rid of the markings in the films, that the Company were bringing out a cold varnish, to be applied with a brush, in the spring. At present Mr. Brooker made a very good cold varnish. The Harrow factory being in working order, there was no difficulty in getting a supply of spoils. The tone of the slides being much admired, Mr. Smith said they were collodio-bromide emulsion, made by Mr. Brookes, of Reigate.

Brixton and Clapham.—The first ordinary meeting in the new rooms was held on the 17th inst. In the absence of Dr. Reynolds, the Vice-President, Mr. R. G. F. Kidson, took the chair, and in a few words introduced Mr. J. Howson, who gave a demonstration upon the Ilford printing-out paper and the "Special" lantern plates. Mr. Howson said he would not trouble the meeting with many details of the paper, as they must be well known to most photographers, merely contenting himself with a few remarks as to the Ilford method. In the first place there was the price, their paper being considerably cheaper than any other that was on the market, notwithstanding the fact that the sheets were 10 per cent. larger. The paper does not curl in the washing and lies perfectly flat at the end of operations. A dull matt, an ordinary albumenised, or a highly enamelled surface could be obtained with equal ease, and the range of tone was simply marvellous, from the lightest red-brown to the deepest black. Mr. Howson showed some very fine specimens of the paper, notably one of the reredos in St. Albans Cathedral, in which the detail was perfect. He also exhibited some photographs of chrysanthemums taken upon the Ilford isochromatic plates, and printed upon the gelatino-chloride paper, which were much admired. The meeting then adjourned to the dark-room of the Club, which will comfortably hold thirty or thirty-five persons, and Mr. Howson proceeded to make four lantern plates. At the business meeting which followed, Dr. Reynolds in the chair, Messrs. H. Nye, Willoughby, Berry, Dockree, Burr, and Dr. Wylie were elected members of the Club. Mr. J. W. Coade, an old and valued member of the Club, was unanimously elected Chairman of the Committee. After some discussion it was decided to hold a smoking concert at the latter end of February. A letter from Mr. Andrew Pringle was read with reference to the Maddox Testimonial Fund, and it was decided to start a subscription list, to which several amounts were contributed.

Devon and Cornwall.—At the meeting last week at the Athenæum, Plymouth, after the election of two new members, a large number of lantern slides, all being the work of members, were shown on the screen. From the number of sets exhibited it was evident that the work of lantern slide making is becoming increasingly popular with the members of the club. The results of the recent flash-light meeting were also on view, and were uniformly successful. The next meeting will be on December 28th, when the club will be "at home."

East London.—The usual general meeting was held on the 14th inst., Dr. Warwick (President) in the chair. The Secretary read a letter from the Photographic Society of Great Britain, in reference to the question of affiliation, which led to a lengthy discussion, resulting in the general feeling that the East London Photographic Society become affiliated providing the majority of the societies do likewise.

Edinburgh.—The first popular meeting of the session was held on the 16th inst., in the Queen Street Hall, and was largely attended. An illustrated lecture by Mr. W. Lamond Howie was given, the subject of which was "To Ober-Ammergau and back in 1890," the views being of an exceedingly attractive nature. Interesting notes of the journey were given by Mr. Howie as the pictures were flashed on the screen. In showing the views of Cologne Cathedral, he remarked that if built in the Lawnmarket beside the Assembly Hall, the top of the great spires would be exactly level with the summit of Arthur's Seat; and that the Scott Monument could easily stand on the floor of the choir and its apex not touch the ceiling. In describing the passion play at Ober-Ammergau, the lecturer said that the powerful effect produced on the vast audience was due not to what one actually saw on the stage, but to the reflections called up. One's thoughts were not in Ober-Ammergau, but ran back to Jerusalem, where the terrible tragedy was in reality enacted nearly 1,900 years ago. Most visitors went up full of the conviction that they would

remember it only as a play. They did not recollect that the harrowing incidents of the *via dolorosa* were matters of authentic history, and not the creations of the brain of some clever dramatist, nor that the sun which shone upon the multitude of to-day was the same which shone upon the jeering thousands on the way to Calvary, and draped itself in cloud before the vengefulness of the Crucifixion. It was these feelings which made such a deep impression on the minds of the spectator.

Fairfield.—At the annual meeting of the Fairfield Amateur Photographic Society held on the 15th inst., it was resolved to change the name of the society to the Fairfield Camera Club. The following are the officers for next year: President, J. L. Mackrell; Vice-President, H. J. Mallabar; Hon. Secretary, S. H. J. Smith, 17, Bentley Road; Treasurer, W. T. Sutton, 27, Seldon Street; Librarian, G. W. L. Lenton; Auditor, T. E. C. Wilson; Council, Wm. Tomkinson, A. F. Stainstreet, S. Samuels, H. C. Hatton, W. J. Sutherland. The Secretary will be pleased to furnish any further information.

Faversham.—The 1891 AMATEUR PHOTOGRAPHER Prize Slides were shown last week, and were much appreciated by the select company. The views were shown by aid of a powerful biunial lantern which was worked by two of the members, viz, Mr. C. Cremer and Mr. F. C. Jackman, while Mr. W. C. Stunt (Vice-President) ably acted as lecturer. After the prize slides came a series of local views the work of members. Altogether a most enjoyable evening was spent.

Frome and District.—The monthly meeting was held on Thursday, the 17th inst., when Mr. Humphries, of the Vandyke Studio, read a paper on "Enlarging," after which he gave a practical demonstration of the process. He made several enlargements from members' negatives by means of the lime light, subsequently developing them in the Club dark-room. The results were highly satisfactory in every case. In addition to the bromide enlargements, Mr. Humphries also demonstrated the printing of an enlargement on opal, and of making an enlarged negative from a transparency. Altogether a most interesting and instructive evening was spent.

Great Yarmouth.—The members met on the 18th inst. Mr. H. Harvey George offered to read a paper upon "Hand-Cameras" at one of the Club meetings in February. He stated that it was his intention to purchase a hand-camera, and he had for some time been studying the various makes and thinking out the advantages and disadvantages in each. Several of the makers had kindly offered to send one of their hand-cameras for inspection when he read his paper. The members then went into the studio to develop the exposed plates, which it had been arranged should be brought to this meeting for that purpose. Among those who competed was Mr. A. Price with two very fine portraits taken on Mawson and Swan's plates, and developed with pyro and potass; these were certainly the best, both as regards the quality of negative and the artistic merit of the pictures. Mr. Arnott also brought two pictures taken on Edwards' isochromatic plates, and developed with pyro and ammonia. These turned out very well so far as the development and exposure were concerned, but the picture was flat and uninteresting, certainly not up to Mr. Arnott's usual form. Mr. P. Wiltshire contributed two well-exposed plates, one of which representing a statue of Ceres gave very good gradations of colour. The Secretary developed two whole-plate negatives on Ilford ordinary plates developed with pyro and ammonia; these were exposed on the 16th, a rather dull morning, but proved to be over-exposed, although the composition and selection of the pictures were satisfactory. Miss V. Hewett also contributed a half-plate, pleasing in subject. The members were favoured by the presence of Colonel Wood, C.B., a veteran in photographic art, and Hon. Secretary of the Norfolk and Norwich Club, who very kindly promised the loan of his most interesting and perfect collection of lantern slides taken in India, which will be displayed at the Club meeting early in the New Year.

Herefordshire.—A meeting was held on the 15th inst., at the Mansion House, Hereford. Mr. T. J. Salwey, of Ludlow, presided. The first business of the meeting was the judging of the competition slides open to the members of this society. The prizes were two exposure meters given by Mr. Alfred Watkins. Mr. A. M. Smith acted as judge, and awarded the two meters to Mr. J. Parker, Hon. Secretary, and Mr. E. G. Davies, assistant Hon. Secretary; Mr. C. H. Woodhouse was also highly commended. The judges remarked that the series of competition slides were remarkably good. Mr. Smith then gave a demonstration on the working of the Kodak hand-camera, showing the various sizes of cameras made, and explaining their working parts very explicitly. The camera contains a spool capable of holding films to make one hundred exposures. He then put upwards of a hundred slides through the lantern, of snap-shots taken with the Kodak camera, comprising views of street scenes on particular seaside and parade bits, and vessels of all kinds, and some very interesting ones of the poultry-yard and animal life. Mr. Alfred Watkins then handed the prizes to the two successful competitors.

Two new members were elected, which brought a very instructive evening to a close.

Holborn.—The last meeting in the old year was held on the 18th inst., at 100, High Holborn, Mr. J. F. Stevens in the chair. Mr. John H. Avery gave an interesting lecture on "Interior Photography." He gave several reasons why amateurs, with only a little spare time, should take up architectural photography. After a few failures it was the easiest branch of photography. If one were using a quarter-plate, architectural subjects looked very well in lantern slides. Again, they could take an interior on any day, but the negatives must be technically perfect. The camera must have a swing-back as well as a cross front. The cross front was the most needful movement in the camera. He gave various hints for exposing, and recommended the soda developer. Backing was most essential for most subjects. He passed round a large number of prints and negatives illustrating his remarks. A very interesting discussion followed.

Lantern Society.—At the meeting on the 14th inst., Mr. E. M. Nelson read a paper on "Condensers for the Optical Lantern." He said that a question often asked was, What is the focus of a condenser? It was a difficult one to answer, because there was the equivalent focus, and the equivalent back focus, the actual focus, and the actual back focus. It was therefore necessary in the first place to understand which of these four foci was meant. He then explained, by means of diagrams, how with only simple arithmetic the position of these four foci might be calculated with sufficient accuracy for all practical purposes. He next spoke of the importance of reducing the spherical aberration, which necessarily was very great in the bending of the marginal rays through such a large angle, to a minimum, and he explained that spherical aberration and unevenness of illumination were correlative terms. The greater the bending of the rays the greater will be the aberration, and the more lenses that this is accomplished with the less will be the aberration. A quadruple condenser has less aberration than a triple, and a triple than a double. Freedom from spherical aberration means greater concentration of light, as well as greater evenness of illumination; it is therefore desirable to obtain it on every account. He next touched upon the illuminating powers of condenser, and said that the question for lanternists was not so much the total amount of light that was condensed, but the amount per unit of area; and he showed that if a slight increase were made in the diameter of a condenser, it was necessary to make a large increase in the angle, so that the same amount of illumination per unit of area might be maintained. In conclusion he pointed out that achromatism in converging lenses by distancing them was impossible. On the conclusion of the paper the following five condensers were practically tried in a lantern made specially for the purpose:—A flat quadruple, two crown triples, a crown double, and the ordinary commercial double. The five condensers were held in a slide and could be pushed alternately into position without needing any alteration of the other adjustments. The general opinion was that the flint quadruple gave the best definition, but that the crown double gave the strongest and purest illumination.

Newcastle-on-Tyne.—An ordinary meeting of the Association was held on the 16th inst. in the Mosley Street Cafe, Newcastle. Mr. J. Watson was in the chair, and there was a fair attendance. After the minutes of the last meeting had been read, six new members were proposed and received. The nomination of officers to be elected at the annual meeting in January then took place. Mr. Jas. Arnott gave notice that he would move at the general meeting that that Association, being such a large one, should have a room of its own, with a dark-room attached. Mr. James Brown was to have read a paper on "Platinum Toning," but, owing to an attack of influenza, he was unable to attend. In his place, Mr. H. G. Ridgway showed and described a number of views on the Upper Thames.

North London.—On Tuesday, December 15th, Mr. J. Traill Taylor in the chair, Mr. J. D. Slater and Mr. W. Walker were elected members of the society. Mr. W. Bishop (the Hon. Secretary) in introducing the subject of "Carbon Printing," said that he was glad to have the opportunity of doing so, as he believed amateur photographers did not give the attention to this beautiful process which it deserved. Whether for the beauty and variety of its results, the simplicity of its operation, or the permanency of its prints, the process of carbon or pigment printing had much to recommend it; while the fact that almost all the working could be carried on in daylight or full gas-light was a great comfort and convenience. The action of bichromate of potash on gelatine was then described, and a brief history given of the process, with reference to the original experiments of Poitevin and others, followed by the discoveries of Swan in 1867, Johnson in 1868, and Sawyer in 1874, as well as to the work of Woodbury and the Autotype Companies in popularising the system. The operations of sensitising the tissue, printing, developing, and transferring to the final support were in turn spoken of, and the use of the actinometer in judging exposure explained. The lecture completed, the demonstration followed, a number of prints which had been exposed during the day being mounted and developed, some on glass as

transparencies, some on single transfer, and others on the temporary support, the final support being then attached, to be stripped when dry. For the purpose of completing the demonstration, some prints which had been developed and attached to the final support the previous day, and were now dry, were stripped from the temporary support, and the result shown ready for mounting. In one case a negative film of celluloid had been used as a temporary support. A collection of specimens of pigment printing showing the various colours available had been kindly lent by the Autotype Company as illustrations and were much admired. The lecture and demonstration gave great interest to a well-attended meeting, and a cordial vote of thanks was passed at its close. It should be mentioned that Mr. Bishop's own specimens as brought, completed by him, included a proportion of failures, the causes and cure of which were explained for the information of beginners at the work. The apparatus used was of the simplest character, being mainly a number of tin dishes for holding water and a porcelain developing dish for alum. A glass slab for mounting, a squeegee, some blotting boards, and a kettle of hot water completed the outfit. In the conversation which followed, the chairman referred to his carbon experiences in the early days, and cordially recommended the process, which he said he could never write or speak of without enthusiasm. Questions were asked from the question box as to the cause of muddiness in a ferrous oxalate developer, and it was generally considered that it was caused by insufficient acid; and next as to the preparation of a lead intensifier, which the chairman promised to take an opportunity of answering. Mr. Mackie announced the affiliation scheme of the Photographic Society of Great Britain as in course of completion, and stated that a notice referring to that scheme would shortly be received. The next meeting will be a technical night, and will be held on January 5th, 1892.

North Surrey.—The exhibition given by this society on the 15th inst. in the large lecture hall of the Roupel Park Wesleyan Chapel, Tulse Hill, in aid of the funds of that church, notice of which was given in our columns, was a distinct success, and a considerable sum was handed over as the result. After deducting all expenses for printing, a balance of £10 was paid to the church funds. An audience of some 450 was secured, which thoroughly enjoyed the interesting and beautifully illustrated lecture given by Mr. J. Thomson, F.R.G.S., upon his "Journey through Siam and Cambodia." The "Scenes at Home and Abroad" by Messrs. Gale, Morrish, Wolff, Bright, Chambers, Wight, Waltham, Senior, and other members, which gave proof not only of their technical skill but also of their wide range of travel, elicited loud expressions of satisfaction. The next meeting of the society will be held on Tuesday, the 29th inst.

Oxford.—On the 15th inst., the President in the chair, three names were proposed. Mr. A. F. Stanley Kent, M.A., Magdalen College, spoke of the method adopted by him in making physiological and other photo-micrographs for lecturing purposes at the museum. After speaking of apparatus which it is advisable for beginners and others to use, he projected on the screen slides representing corpuscles in the blood, sections of a water beetle, formation of bone, etc. Only fifteen were present, this small number being due to the fact that only a few of the members practise photo-micrography. Other slides towards the "Oxford set" and some of Holland views were then put through the lantern. Mr. R. A. R. Bennett exhibited the latest pattern of the "Talmer" hand-camera, and explained its working powers.

Richmond.—On the 18th inst., Mr. Cembrato in the chair, there was a very large attendance of members, the subject being a demonstration by Mr. R. L. Kidd, of the process of "Enlarging and Printing on Bromide Paper." After describing shortly the manufacture of bromide paper and its development (for which he recommended ferrous oxalate in preference to all other developers), Mr. Kidd, with the aid of the lantern, exposed a 3½ in. square picture, the portrait of a child, enlarged to whole-sheet size (23 in. by 17 in.). This was developed and fixed, and proving rather over-exposed, a second exposure was made which resulted in a very beautiful and perfect print. The mode of printing in clouds by double exposure was next illustrated. A snap-shot picture of Yarmouth sands having been exposed, enlarged as above, and the print partially developed and washed, a cloud negative was substituted, and a further exposure made, an excellent picture being the result. Mr. Kidd then made some contact prints. Folding a piece of paper in four, he exposed each quarter of the surface in succession behind the same negative, and developed the four pictures at once, an expeditious mode of producing a number of identical prints from one negative. This concluded the demonstration, which had been accompanied throughout by a clear explanation of each process. In the course of his replies to questions of members, Mr. Kidd gave a brief description of the mode in which the 20,000 odd prints of the German Emperor's portrait forming the frontispiece to the "British Journal Almanac" for 1892 had been produced by his firm, the whole being from one negative, printed twelve on a sheet (the position of which for each exposure was adjusted by machinery) at the

rate of about sixty sheets a day. Mr. Whipple, of the Royal Observatory, Kew, added some remarks in recognition of the valuable services of Mr. Kidd and his firm to the cause of scientific photography, especially as applied to the recording of meteorological observations, their products and appliances being in use not only at Kew but at all the affiliated observatories throughout the world.

Sheffield.—A general meeting of the Camera Club was held on the 16th inst., at the rooms, New Surrey Street, when a number of very fine slides of American scenery taken by amateurs in America were exhibited and much appreciated by the audience. Attention was called to the joint meeting of the three Sheffield photographic societies on January 20th, when an exhibition of prize lantern slides will be held in Montgomery Hall, the lecturer being Mr. Charles W. Hastings, the gross proceeds to be given to the National Lifeboat Institution. Three new members were nominated.

Stockton.—On Tuesday evening the 16th inst. the members of this Society spent a very pleasant hour or two in their rooms in Mason's Court, under the guidance of Mr. Ellam, of Yarm, their Hon. Secretary. Mr. Ellam, in July last, joined the Stockton Shakspeareans in an excursion to the home of Shakspeare, and in a racy and interesting manner he described the journey and the places they visited. His remarks were illustrated by a large number of photographs which he took in and around Stratford-on-Avon and Kenilworth, shown by means of the limelight. These included most of the spots rendered sacred by their association with the great dramatist and the ancient Warwick family. Afterwards a number of views, quaint and picturesque, of local scenery and incidents in local life were exhibited by the Hon. Secretary, Mr. MacDonnell, and Councillor Graham, most of which testified to the great proficiency attained by the amateurs of this district. Mr. Moulton attended to the lantern.

West Kent.—On the 18th inst., the Vice-President, Mr. A. R. Dresser, gave a most instructive lecture on hand-cameras, explaining the working of his own (maker, Messrs. Crouch), and advising the use of a good lens and reliable shutter also the advantages of films over plates, and comfort and ease in taking pictures that could not be obtained with the ordinary camera on a tripod, and producing results from these small pictures by enlarging to 15 by 12, as good as those taken direct, illustrating same by handing round a number of very fine enlargements on bromide paper and toned. The Secretary then took a flash-light group of several members with the "Fusée" flash lamp. Next meeting takes place January 15th, at Board Room, Bexley.

West London.—The meeting on the 18th inst., Mr. Bilton in the chair, was a lantern evening. Slides were shown by Messrs. Bilton, Blizard, Dixon, England, Kellow, Rogers, Scanlan, Scantlebury, and the Secretary. The meeting then entered upon the consideration of Mr. Hodges' proposal to hold social meetings on the 1st and third Fridays of the month. The proposal was seconded by the Secretary, and supported by the President and Mr. Whiting, but Dr. Low moved as an amendment that the question be not discussed until better premises had been secured. The amendment was carried. Eventually a committee was appointed to report upon the suitability of a certain hall in Chiswick as headquarters of the society.

Wigan.—On the 16th inst. some prize-lantern slides were exhibited before a good audience of members and friends, by whom the majority of the slides were well received. A number of the figure studies, the seascapes, and the flowers were considered so good that they were passed through the lantern a second time. After all these had been disposed of, a few members' slides were exhibited.

Yarmouth.—The first working meeting of the Cromwell Photographic Club was held at the Cromwell Hotel on the 14th inst., a goodly number of members being in attendance. The Secretary of the Club (Mr. Charles Rumbold) gave practical demonstrations of the method of exposing and developing negatives. Special attention was given to the use of the open and stop lenses, and useful information with respect to distances. The demonstrations were illustrated by means of camera and plates, the general manipulation of the camera being well and fully explained to all present. Another member of the Club, Mr. Liffen, of Gorleston, also gave demonstrations in photographic work. During the evening several influential gentlemen were elected members of the Society, the Mayor of the borough being amongst the number. It was resolved to tender the best thanks of the Society to Mr. F. Danby Palmer for the invitation given to the Society on the occasion of the opening meeting of the Camera Club and for the excellent address given by him on "The History of Photography." At the next meeting of the Cromwell (January 11th) the evening will be devoted to printing and toning albumenised paper.

Yorkshire.—The first conversazione of the present season took place on the 17th inst., when a company of ladies and gentlemen numbering about 200 assembled at the Society's Museum at York in response to the invitations which had been issued. The proceedings commenced at eight and lasted till about half-past ten, and the

Council had provided a very pleasant evening's entertainment. The primary attraction was a splendid collection of photographs with which the walls of the library and galleries were hung, the pictures being the work of the members of the Photographic Section and a few other amateurs in the York district. This section is an increasingly popular feature of the Philosophical Society's operations, and the exhibition attested the rapid progression which has attended the efforts of the members. The advance is especially marked in the enlargements, this being no doubt due in a large measure to the precept and example of the veteran member, Mr. Monkhouse, who has invented a highly successful method of perfecting enlargements by artificial light without the aid of a condenser. It is clear, from the subjects to which the photographs have reference, that the rambles of the members have extended very far afield, the specimens representing views in North Italy, Switzerland, etc., as well as many scenes in and around York. The manner of treatment was almost as varied as the subjects, and the latter comprised not only landscapes but portraits and other studies, and in some instances forcibly illustrated the value of the photographic art in its application to the operations of the Society in totally distinct fields of research. Among the photographs hung were several admirable specimens by the late Archbishop Thomson, and these were inspected by the visitors with melancholy interest. The enjoyment of the company was greatly enhanced by a series of photographic views shown on a screen in the theatre by the aid of the limelight. The first series was exhibited by Dr. Tempest Anderson, being a number of excellent views taken by him in the spring of the present year in the district of the Giant's Causeway and the North of Ireland. The other series comprised some beautiful specimens illustrative of the Cornish coast, the work of the Rev. T. Gough, B.Sc. Refreshments were provided for the guests in the Council Room.

To Correspondents.

All communications for these columns are to be addressed to The Editor, "Amateur Photographer," 1, Greed Lane, Ludgate Hill, London, E.C.

RULES.

1. Write clearly and distinctly on one side of the paper only.
2. Write each Query or Answer on a separate sheet of paper.
3. Write the name and address legibly on the back of each communication, and sign all Queries and Answers with name or *nom de plume*.
4. All matters for these columns MUST be received by TUESDAY MORNING'S POST.
5. The Editor does not undertake to answer questions by post.
6. In answering Queries, correspondents are requested to mention, in every instance, the number and full title of the query referred to.

QUERIES.

5317. **Omnigraph.**—Kindly tell me if Lancaster's Omnigraph will give good negatives, and if it is thought a really good article for one who wants a detective camera at a reasonable price?—RELLAW.

5318. **Griffiths's Enlarging Cameras.**—Can any reader of the AMATEUR PHOTOGRAPHER inform me if Griffiths's patent fixed enlargement camera and his lantern slide making camera are really good instruments and worth the money asked for them?—QUESTIST.

5319. **Ammonia and Hydroquinone.**—Will ammonia .380 have any effect in a one-solution hydroquinone developer? In what way will it show its appearance on the plate?—TERMINI.

5320. **Sodium Sulphite or Sulphate.**—In Wall's "Dictionary," on pages 294 and 295, there are particulars of "a new developer," and in No. 1 solution the first chemical mentioned is sodium sulphite, 500 gr. or 6 grm. Will sodium sulphate do, using the same amount. If not, what can be done in order to make this fit for use?—AN AMATEUR PHOTOGRAPHER.

5321. **Xylonite Films.**—I shall be glad of any reader's experience with the Xylonite films.—ACHRODYNAMICS.

5322. **Camera Case.**—I have a light-brown camera case, and shall be glad of particulars of how to stain it dark brown or black.—A. P.

5323. **Lighting with Magnesium.**—In what position should the light (magnesium) be when taking a stage measuring about 12 ft. long and an 8 ft. square floor—the stage is occupied by the performers, etc.? I should also like to know the distance the camera ought to be from the stage, and will gas affect the picture.—LITHO.

5324. **Carbon Printing.**—Can any reader answer me the following questions? (1) Can enlargements be made on carbon tissue in the same way as on bromide paper, and if so, how is the exposure reckoned? (2) How often can the sensitising bath be used before it becomes too weak?—CHARCOAL.

QUERIES UNANSWERED.

Nov. 27.—Nos. 5243, 5247, 5250.
Dec. 4.—Nos. 5255, 5257, 5245, 5266.
" 11.—Nos. 5287, 5289, 5292, 5293, 5294.
" 18.—Nos. 5295, 5298, 5299, 5301, 5303, 5305, 5312, 5316.

ANSWERS.

5296. **Enlarging. Book on.**—Wall's Dictionary will answer your purpose very well. Quick paper is the best to use when enlarging.—LONDON.

5297. **Lens.**—Write to Wray, of North Hill, Highgate, for a catalogue. His lenses are very good.—LONDON.

5297. **Lens.**—I believe the landscape lens used is the Facile, and is about the best that you can get for hand-camera work. It works at about $f/11$. I do not think that you could get a landscape lens working with a larger aperture than $f/11$, that would cover the plate to the edges. At any rate, I cannot find any mention of such a lens among the list of the lenses of the principal makers. The one I have mentioned is sold by J. Fallowfield, 146, Charing Cross Road, W., for £1 1s. If you want a large aperture you had better get a rectilinear.—CARBONATE.

5300. **Plate Rocker.**—Adams and Co., of 26, Charing Cross Road, W., sell a good pendulum rocker at 5s. 6d., or a more expensive one at 15s. 6d. You will see full particulars in their "Annual" or catalogue, price 9d., which it is no use quoting here. CARBONATE.

5302. **Chrome Alum and Alum.**—Ordinary alum is generally in the form of a yellowish white powder; chrome alum is an acid purple crystal salt. For clearing negatives it is much better than ordinary alum.—PEN.

5304. **Lead Toning and Fixing Bath.**—I do not believe lead toning gives half as satisfactory results as gold. The opinion of most people seems to be against it.—CARBONATE.

5306. **Focal Ratio of Lens.**—I am afraid you and your friend have made the most terrible mistakes somewhere. The lens is a single one and the full aperture usually is about $f/10$. The proper way to find it out is to focus a distant object, measure the distance from the lens to the ground-glass, and divide by the diameter of the stop.—PEN.

5306. **Focal Ratio of Lens.**—I suppose by the fixed stop you mean the aperture in the lens mount itself? I should think that you must have made some mistake in calculation, as both $f/21\frac{1}{2}$ and $f/32$ are very small for the maximum aperture of any lens. You would probably be able to find out its focal value from the maker, or you can find it yourself in the following manner: The first thing to be got at is the focal length, to find which, put some small object, say a carte or cabinet photograph, in front of the lens, and rack out until the object focussed is of the same size on the ground-glass. Now measure the distance from the

Notes from the Edinburgh Centre.

(By OUR DISTRICT EDITOR.)

THE Edinburgh Photographic Society held their first popular evening for the season in Queen Street Hall, on the evening of Wednesday 16th inst. There was, as is usual on such occasions, a large gathering of members and their friends. It may, in fact, be laid down as one of the reproaches of the Society, that of late years the cultivation of the popular has, perhaps, been carried too far, to the neglect of the practical. Everyone is liable to err, and the Society may have done so. On the other hand, it is just possible it may have acted rightly in the interests of photography, issues in such matters being far-reaching, and so the past may be forgotten if the future be in any way what it promises to be. The demonstrator at the meeting on Wednesday was Mr. W. Lamond Howie, who was introduced by Mr. H. J. Blanc, the President of the Society, as one of their own members who was always willing to put himself to trouble to assist the Society. Mr. Howie's subject was his illustrated lecture on "A Journey to Ober-Ammergau and Back in 1890." He handled his subject with the easy, good-humoured grace for which he is distinguished, and apart from the exhibition of his slides, kept the audience in thorough interest all the time. The slides were, mostly from his own negatives, and have been shown in so many parts of the country that they need no comment here. Mr. J. M. Turnbull, Rose Street, showed the pictures with a single lantern, using cylinders for both gases, the first occasion on which he has done so. The gathering was a great success.

object to the ground-glass and divide by four. The result will be the focal length. Now measure the diameter of the stop, and divide the focal length by it; this will give you the value of the stop.—CARBONATE.

5307. **Hand-Camera, to Make.**—I have made my hand-camera to work with one of Eastman's film holders, which I bought cheap second-hand; but I daresay "R. V. B." will want his to work with plates, and if he will write me I shall be very glad to help him. Editor has my address.—E. G. S.

5308. **Enlarged Negative.**—Make a transparency from your quarter-plate negative by contact, place this in position, and proceed just as if you were making an ordinary enlargement. Griffiths's camera is so simple, you surely do not want instructions how to use it?—PEN.

5309. **Lens.**—I don't think a portrait lens is necessary for flash-light work. A good rectilinear working at $f/8$ would do as well, and of course you could use it for ordinary work, whereas the portrait lens is of no use outside the studio. It is rather a needless expense unless you mean to go in for portraiture to a large extent.—CARBONATE.

5310. **Flesh Lamp.**—The firms whose names you mention can be relied upon as selling good articles.—LONDON.

5311. **Elkonogen.**—The following formula is considered as good:—

A.	
Crystalline sulphite of soda ..	40 grm.
Elkonogen ..	3 "
Water ..	500 c. cm.

B.	
Carbonate of potash ..	60 to 75 grm.
Water, distilled ..	500 c. cm.

For use, mix equal parts of A and B.—LONDON.

5313. **Glazing Prints.**—Take prints out of washing water and squeeze into close contact with a piece of clean glass which has been rubbed with a little French chalk; when dry, prints may be stripped off and mounted.—E. F.

5313. **Glazing Prints.**—Procure some encaustic paste from any dealer, and after the prints are quite dry on the mounts, rub a little of this over their faces with a tuft of cotton wool or the finger, and polish with a clean piece till the surface is free from markings.—PEN.

5314. **Filtering Developers.**—No, there is not the slightest need, unless there is dirt in them.—PEN.

5314. **Filtering Developers.**—Developers ought not, in my opinion, to be filtered at all if made up with clean measures, etc.—LONDON.

5315. **Enlarging.**—I should have the lens made to fit the front of the 10 by 8 camera by means of an extra flange. Then, if the camera will rack out far enough, you can enlarge direct, proceeding simply as if you were copying, only making the copy larger than the original.—PEN.

EDITORIAL.

SPECIAL NOTICE.—We are very pleased to find that replies in this column are so much appreciated, but we should be very grateful if those requiring advice would send their letters to us BEFORE TUESDAY MORNING'S POST if possible. The time occupied

in replying in this column is very considerable, and owing to the often late receipt of letters, many matters have to be left over each week. This we much regret.—ED: AM: PHOT:

A. DAVID.—If you replace your ruby glass with a deep orange glass, such as used by Benham and Froud, of Chandos Street, Charing Cross, W.C., in their Perfection lamps, you will get a bright and safe light to work by. If you nail or paste a 2 in. strip of black or dark-coloured American cloth all round the door, it will effectually stop out the light and not interfere with the opening of the door. Any local jobbing carpenter ought to make you a cupboard very cheaply.

K. D. S.—Compressed oxygen and hydrogen can be used with perfect safety with cylinders and blow-through safety jets, and the light is about ten times brighter than a three-wick lamp.

C. G. MYLORA.—Letter by post.

SHAMROCK.—If the principal object of your print was intended to be the sluice or weir on the left, then you should have included the whole of it; if, on the other hand, the church was the principal object, you should have got much nearer. The straight lines of wood, wall, and fencing are by no means pleasing. The print is good technically and shows careful manipulation.

A YOUNG AMATEUR.—(1) If you want to represent movement and life in the water, 1-20th of a second is quite quick enough. (2) Yes, use extra-rapid plates. (3) Coat the back of the negative with yellow matt-varnish and, when dry, scrape off the varnish from behind the leaves.

E. GRIFFITHS.—Letter by post.

AMATEUR MOUNTER.—The paste you name has not proved safe in our hands.

RUETAMA.—Letter by post.

T. L. ROSEBER.—Many thanks; we shall use your letter shortly. The flash light portrait is good, superior to a great deal sent us which is done by daylight.

STONARF.—The camera you name is capable of turning out good work and is well worth the money asked.

PETER.—(1) You will find, we think, the new developer, Rodinal, give you better results. (2) Sharp and Hitchmough, of your city, have a very good toning solution. (3) You can, at least, say that the lantern plates you name are the favourites; they are easy to work and give good results.

W. R. C.—We prefer A. You will find the incandescent gas light give a good light.

BROMIDE.—The strong solution will have no effect on the print, but the weaker solution is to be preferred as not likely to cause blisters.

MIALL.—The Miall camera is sold by Mr. Jonathan Fallowfield, Charing Cross Road, London, W.C.

J. J. RIX.—Your suggestions shall receive our consideration, although we cannot promise to fall in with all you propose.

G. J. JONES.—If you sent us the title of the photograph you sent in, we might possibly trace either it or the entry form; at present we can find neither.

Sale and Exchange.

CHARGE.—Twelve words or less for Fourpence. Every additional three words, one penny. The name and address of the sender must be paid for. (A single figure, or group of figures undivided by letter, space, stop, or words, counts as one word; compound words count as two words.)

DARK SLIDES, etc.—Dark-slides, three half and three quarter Instantograph, new, 6s. 6d. and 4s. 9d. each; half-plate new camera, all new movements, 50s.; bargain; approval.—Adams, Harold Wood, Essex.

HAND-CAMERAS, etc.—Beck's 12-guinea hand-camera, quarter plate, with guinea umbrella tripod;

£7 7s. — No. 235, AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.

LANTERNS.—A bargain. Marion's enlarging lantern, 7 in. condenser, new, in perfect condition; price £3 15s.—Address, S., 154, Ecclesall Road, Sheffield.

LENSES, etc.—5 by 4 rectilinear lens, 25s.; Leviathan ditto, iris diaphragms, 35s.; 5 by 4 wide-angle rectilinear, 27s. 6d.; Optimus lantern lens, 10s.—59, Kippoch Street, Cardiff.

NEGATIVES.—Quarter-plate negatives for sale at 1s. each; send stamped addressed envelope for list.—Ed. Hughes, 4, Colville Gardens, Bayswater, London.

ROLL-HOLDER.—Eastman half-plate roll-holder, perfect, latest pattern, used once, going away, must sell; 40s.—Broadbent, St. Paul's Road, Shipley, Yorks.

SETS.—Half-plate Instantograph camera, dark-slide, tripod, and R.R. lens, new; bargain, 68s.—53, Slad Road, Stroud.

SUNDRIES.—Pair of Newton's oxycalcium lamps, Newton's best hand-painted slides, "Babes in Wood," "Robin Hood," "Mary Queen of Scots," effects; the lot half catalogue price, good as new, or exchange good hand-camera.—Rectory, Bradford Peverell, Dorchester.

Foreign stamps for sale, rare and otherwise, cheap; send for list.—E. Utterberry, Birchington Road, Kilburn.

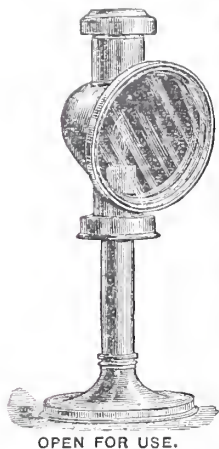
WANTED.

CAMERAS, etc.—Camera, half-plate, must be in good condition, and have all movements; approval; state price.—C. H. Evans, 12, St. Helen's Rd., Swansea.

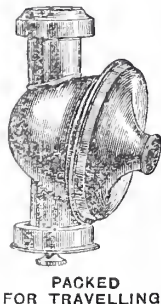
HAND-CAMERAS, etc.—Ideal (Adams and Co.), for 13 quarter-plates.—Brown, AMATEUR PHOTOGRAPHER office, 1, Creed Lane, London, E.C.

LANTERNS.—Bunial lantern, for limelight only, with mahogany body and good lenses.—H. Chorlton, Tottington, Lancs.

SUNDRIES.—Compound enlarging condenser, not less than 5 in.—Sterry, Earlswood Road, Redhill.



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VIOLATION OF TRADE MARKS ACT.

To Messrs. CHANCE BROTHERS & CO., Limited, Spon Lane.

I admit that I have done wrong in marking some Sheet Glass as Crown Glass, and selling it so marked for Microscopic and Photographic purposes, and I authorise you to publish this admission as you think fit.

Dated the 14th December, 1891.

SAMUEL HENRY DE SAULLES,

52 & 54, Spencer Street, Birmingham.

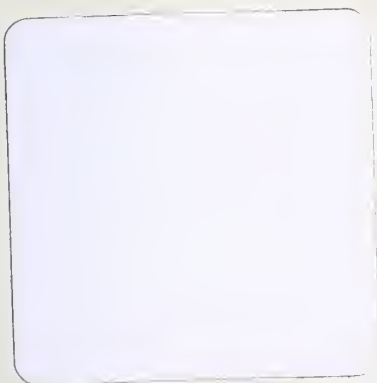


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